

SCHOOL AND COLLEGE.

ENGLISH IN THE SECONDARY SCHOOL.*

I HAVE been requested to address you this evening upon the subject of English in the secondary school. I am a little in doubt how to select in so broad a field. For ten years of his student life the college-bred man pursues, or should pursue, the study of English in a systematic manner. For six years his training falls within the secondary school. Here foundations are laid, standards established, and habits formed, which will in large part determine the quality of his scholarship in the university. In no other study are the temptations to vagueness and superficiality so constantly present as in English study, since the tests of excellence are, more largely here than elsewhere, a matter of judgment and critical acumen. Hence the necessity that in the secondary school correct standards should be clearly apprehended, and the student confirmed in loyalty to that which is simple, direct, sincere, and natural.

Because of these conditions of success preparatory instruction in English is a task, the most delicate and difficult in the secondary school. I come to you from fourteen years of service in preparatory instruction. I have taught, as the needs of school-life demanded, almost the whole possible range of secondary work, and I affirm that no other branch so nearly exhausts the resources of the whole man in both knowledge and experience as does this work in English. The teacher must become a child among children, must seek their level, see life through their

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eyes, think their thoughts, and, as an elder brother, lead them into new and broader fields of knowledge. English teaching in this differs from other preparatory teaching. Other studies may cultivate the reason and train the memory, but English *lays hold on life*. It renovates, purifies, ennobles, or it fails of its high calling.

I shall undertake, this evening, to tell you in part how it can do this. I understand that some of the young men present are questioning what promise, as a life vocation, the teaching of English may hold for them. To these I wish to speak directly, and will frame my words in reply to a question of vital moment to them, the question as to whether the teaching of English in secondary schools would give to them, personally, continual growth, or whether, as in many branches, a limit of necessary culture is soon reached, beyond which the only advance is in skill of presentation.

To avoid misconception, I wish to qualify, in one particular, the statements that follow. I shall speak of the exceptionally high calling, as I believe it, of the teacher of English. I shall not dwell upon the brain-fag that occasionally comes to the instructor, here as elsewhere, and in this branch more easily than in other teaching, because English study demands a higher quality of instruction for comparative success. I shall insist that successful composition is the choicest fruitage of the pupil's brain, but shall not stop to add that the teacher of English must combat, more strenuously than other teachers, mental sluggishness, indefiniteness, inertness, and all the offspring of spiritual insobriety. What would you have? The demand for the highest quality of mental effort necessitates partial failure when you cannot command the full powers of yourself or of your pupil. This view of the subject, usually too prominent when essay-correction is in mind, will be ignored in this discussion.

I would then say, first, that as a teacher of English you have a vocation than which none can be higher. In a very literal sense it becomes your privilege, your duty, to open the eyes of the blind, to waken the sensibilities, to train the judgment, to cultivate the moral nature. Books and methods become but tools;

training, rather than information, is our goal. The mind of the pupil is the object of attack ; methods of instruction matter little. Too often the teacher fails to seek his chart in the mind of the child, and becomes hopelessly entangled in the detail of his method, since, in English, indistinctness of vision is not so sharply corrected by tests of definite acquisition as in other branches. Our first task is this, to know clearly what we are seeking.

I have said that it becomes your duty to open the eyes of the blind. To the untrained youth literature is a blank, poetic phraseology an unknown tongue. Such, at least, has been my experience with by far the majority of youths. You must lead your pupil into an unknown land, open to him the treasures of literature, and show him how to find there the mental food suited to his wants.

Successful direction implies careful study of the individual. No two minds have the same needs. A watch must be kept upon the pupil even more than upon the teaching, or precious time and effort will be wasted. If you give him thought that is too mature or difficult, it will not touch him ; if a sentiment that is trite, he will have none of it. But if you take him out of the commonplaces of thought, and insist upon clearness of conception and accurate definition, the old poem will hold him with a new fascination. Let him trace out similes, and catch the appositeness of metaphors. His eye kindles as the beauty of the poet's thought breaks upon him. He drinks as one thirsty, and calls for more.

This work in literature has the rewards of ethical teaching. New thoughts of life's import and duties broaden the mental view. The poet's happy interpretation of recognized spiritual longings and habitudes leads the pupil to introspection. He comes to know himself, and this knowledge tends toward soul-health. When a young man's eyes light up with feeling, as he says, "I did not know poetry could say such things," you feel that a man's work has been done that day. Another book of life has been unclasped, whose lids will never fully close again.

I said, further, that it is for you to waken the sensibilities.

Every healthy, untutored boy is, in great part, a Philistine. His material environment has been his life. He hates sentimentality with a perfect hatred. He is reluctant to recognize, and seldom utters, the secret promptings of his soul, lest ridicule should overwhelm him. When your class reverently bends with you over the words of some seer, believing, as you believe, that those words hold a message from spirit to spirit, if they can but grasp it, you feel, as every true teacher must feel, the power that is put into your hands, the call upon you to deepen thoughtfulness, to raise ideals, and to teach reverence for the things of the soul life. A mutual confidence draws teacher and pupils together. The customary barriers of age and position fall, and questionings are brought you that reveal the inner springs of motive.

In these moments of intimate communion, to teacher and class alike the presence of a new pupil is unwelcome. You cannot wear your heart upon your sleeve when daws are near. Only absolute confidence in the sympathy of his mates will induce a boy to utter his thought. Here is one advantage that the preparatory teacher has over the college professor. It is possible so to mold, through your own earnest personality, almost every class, as to hold it during the last year or two upon a confidential footing. This seems to me very difficult with university men, from widely different conditions of life, and already saturated with the materialistic views current in society. I know that oftentimes the class work of my seniors seems robbed of half its value by the admission of a boy to whom Wordsworth's lines fitly apply:—

A primrose by a river's brim
A yellow primrose was to him,
And it was nothing more.

Work stops until he ceases to view the text indifferently, and begins to delve with his mates for the treasures beneath.

I believe in intensive study of literature for the preparatory student; through no other channel can the magic touch of the master bring life to the disciple. Instruction through intensity; then information through extensive reading. And it is because

I believe that intensive study of noble thought is a transforming moral agency, that I hold it the duty of the teacher of English to send his men to the university better men than they came to him, with deeper reverence for spiritual things and a clearer perception of correct standards of life.

Such is the work laid upon you. Do you ask how this can be done, since it proves a task so different from the teaching of arithmetic or Latin? It is difficult and, therefore, inviting to men of generous mind. In the first place, you must thoroughly believe that which you teach. If you do not believe that great poets are teachers, you cannot do this work. Boys quickly detect insincerity, and insincerity gives rise to false sentiment, and that they abhor. A reverent loyalty to truth and beauty, as you see them, not as some critic, whom you echo, sees them, is, I believe, a first requisite.

Secondly, haste is fatal. It does not matter how long you tarry upon one poem, if the mind is feeding. Let the pupil compare figures, examine rimes, pry into the artists' secrets as deeply as he may. If he gain insight thereby, future progress will be rapid. It is your task to determine what literature is suited to his needs, and when a change of author or task will act as a corrective or a stimulus.

But selection is no easy matter. Literature does not come to you labeled easy or difficult, concrete or abstract. And you, doubtless, have kept no record of your own struggles and conquests. To your sight the familiar walks of literature seem level ground; not so to the youth to whom each rise gives a broader outlook. Many surprises await you. Subjects that you thought easy will stagger the child, while again he will sound depths that you supposed for him unfathomable. Further, it will be seldom that the teaching of two authors, or of any two works of one author, will agree in immediate object. The "Lady of the Lake" is excellent for one thing; the "Lay of the Last Minstrel" for another. All this work of gradation is as yet a matter of experiment. We can have no science of English teaching until the adaptation of different classics to the child-mind has been made out. Here is a field of investigation for the thoughtful instructor.

But we cannot tarry longer upon literature. You see the great task that must be intrusted to it, the informing, educating work productive of true culture, which it alone can do, at least in the secondary school. Perhaps this is the most important province of English teaching. It is not the most difficult. The work that will tax all your resources, call for all your knowledge of the child-mind, all your knowledge of human nature, of art, philosophy, and the physical world, and will make you feel yourself a tyro in criticism and rhetoric, is the work in composition. Yet here, where his task is most difficult, the teacher of English has one advantage over his fellows. He has a test of his teaching ever at his hand. If his instruction is indefinite, general, or too abstract, the pupil's written work will reveal it. If he is cramming the pupil's mind with the teacher's thoughts and facts, the undigested essay will show it. He who knows how to read aright will find in the student's theme many a rebuke of his own illogical, confused thinking. The bane of teaching in English is its indefiniteness. To avoid this, the teacher must hold in clear definition the immediate object sought, and the principle that controls his selection. A firm grasp upon general principles is essential. Only through an intimate knowledge of fundamentals can you give the pupil a clear-cut definition. Go from Hegel to your class-room, lay for yourself broad foundations in æsthetics, in the laws that underlie painting and music, if you would answer best the boy's "why" in composition.

The written theme is the high water gauge of the pupil's culture. Authorship is the surest index of mental power in man or boy. That which the mind has assimilated and made its own instructs the mind, and the written thought reveals it; it reveals, also, the half-understood and unadjusted facts which are awaiting in the mind's lumber-room the advent of some organizing, vitalizing idea. This work in composition reveals not only the possessions of the mind, but also the condition of the mind itself. Has the pupil hastened to class, weary from a long tussle with a difficult problem? Was his mind basking in a delicious reverie? Has he just risen from a hearty dinner? The essay tells the tale.

In most recitations the pupil husbands half his strength. In writing he must give his best, and you must see that he does it. How? Not by a lecture. Can *you* write with reproach in your ears? Most minds need a spur to excite them to their best endeavor. Here it may be writing against time, emulation, or, best of all, the fine enthusiasm aroused by following out a suggestive thought. This means that you know how to select topics, can give subjects with definite boundaries and withal provocative of thought—a challenge that the student eagerly accepts and can measurably answer. Most teachers fail here. The subjects given are general, limitless, or vague. To know clearly what one thing you are aiming at; to know, also, that thought cannot be extracted from the mind unstocked with the materials for thought, are the conditions of success. If a teacher knows his class and what definite object he wishes to accomplish, I cannot think that he will ever be at a serious loss for theme subjects.

But let us look deeper into this work in composition. Through literature, especially poetry, we saw that the sensibilities were kindled, the moral nature invigorated. Through composition the judgment must be trained, the imagination called into action through invention, and the eyes that are beginning to see in books must be led to look out upon nature and man. An erroneous notion is abroad. Many people fancy that theme-work is the bane of the teacher's life, and the bugbear of the student. Not at all. It crowns the work of the teacher in the secondary school. What research is to the university man, the theme is to the preparatory pupil. It makes him a free man up to his present capacity. Of course, I am not speaking of instruction in composition where the teacher grades essays all day without personal contact with the pupil, nor where the criticism of essays is added to his daily work as an extra that does not count—such conditions preclude teaching—but of instruction where the literary laboratory has equal consideration with the chemical laboratory, where to teacher and pupil an opportunity, in language as in science, is given for supervision and experiment. Under such circumstances the spirit of the studio

pervades the class-room. The pen's product is the best possible. A page of manuscript is a thing of moment, to be criticised, excelled if possible, at least to stand the fire of would-be artists. And the master's word that points out the faulty logic or the incongruous figure, which their eyes failed to detect, sends these embryo authors back to their desks with another revelation.

I have said that the judgment must be trained, the imagination quickened through invention, and the eyes, with their new light, turned upon nature. It is singular how this study of English meets its own difficulties from its own resources. The magic of invention converts the humdrum essay into an inspiration. This, I am convinced, is the proper gateway into theme-work. Give the imagination fit scope for its play, and the child is eager for the task; then the evidence of native ability, and the rapidity of improvement, become a continual surprise.

At first the mental resources will exceed the command of expression, but facility will gain upon acquirement; then the judgment must be trained and the discernment made more keen, for images will be lawless and figures exuberant, unless the teacher shows the pupil how to prune, and why. The chastening of style is medicinal to the soul, but each one must work out his own salvation here. You may show the student what is not right and why, you may drop a fructifying idea for him, but you must not do his work for him. How can you train judgment, if you usurp the place of judgment? You may show him parallel work by other men, those who are called masters, and send him back to literature, this time to prose, to see how other workmen have developed thought, shaped sentences, constructed paragraphs, and produced effects. This teachable spirit will keep his style free from bombast, make it sincere, simple, direct. New light will break upon him from prose when he seeks in its pages an answer to his questions. The study of prose style is most productive when the text of the master is searched for explicit answers to definite questions.

There still remains a task in the field of composition. As you have opened for your pupil the book of the poets, so now open the book of life and nature. Aglow as boys are with the

life about them, it is astonishing what they do not see, as well as what they do. Ofttimes the best lesson you can teach is from the hilltop. Show your boys a sunset. Half of them never really saw one. With note-book and pencil let them take the swift succession of colors, the cloud forms, the lengthening shadows, and, as evening falls, find fresh illustrations of the time when "all the air a solemn stillness holds." There is nothing that can take the place of this field work in studying nature. You may smile at the thought of thirty boys strung along a road-side, paper and pencil in hand, intently watching the cloud-rack at the close of a windy day; but it makes writers, it brings them into spiritual accord with the poets who have done the same thing before them. It opens their eyes.

Again we note how intimately connected are the different branches of English study. While you must follow a distinct object in each to prevent confusion, do not try to divorce them. Prose for models, poetry for ideas—the writer must be in touch with both. Irving or De Quincey will teach him graceful transition in paragraphs. Macaulay will unfold the art of balanced sentences, or reveal new possibilities in antithesis. His eye, lately dwelling on pen pictures, catches the chequered shade upon the lawn, or watches Milton's meridian moon while "stooping through a fleecy cloud." He sees nature with a poet's eye, and unconsciously seeks verbal expression for her beauties. His written task brings, at every turn, some question which literature alone can answer, and you must know where to send him within its vast and unclassified domain for his answer.

I am conscious how insufficient my treatment of this topic has been. I have not shown how this object-study, when directed to man himself, teaches sober estimates of character, and reveals and trains a power of judging men and conduct; how, when applied to complex scenes, it brings up the artist's problems of combination and elimination; how, when action is its theme, questions are suggested curiously like those of music, in phrasing, acceleration and retardation of expression that shall wed more intimately the thought and language. Many

of these things cannot be told. Of this it might be said as of high ethical teaching — if you would know of the doctrine, you must do it. Yet the way-marks are plain, and one cannot go far wrong if his pupil's work is based upon direct personal observation of nature's open secret, the book of life and of the physical world.

There still remains one phase of English teaching upon which I must touch. In the written work, and in author study as well, it is often necessary to weigh the word and scrutinize the sentence. The pupil must therefore study the word, and its relation to other words, as the foundation of this work. This study we call grammar. You will probably meet among the outside public more unbelievers in this subject than in any other concerning English. A heresy, born of half-knowledge, is abroad in the land. Men thought that English grammar would teach children to speak and write correctly. The grammars said so. They discovered that this did not necessarily follow; in other words, that a boy might parse and yet say "aint." They concluded that grammar was a failure; that a something they called language-lessons was the one thing needful, and that English teachers, abandoning the dear-bought experience gained in other languages, must strike out a path of their own, as if English had neither kinship nor ancestry, but was a thing of its own kind.

As all the educated know, the Indo-European languages have, in general, common laws of word-relationship. These laws may be more easily recognized when words have the convenient labels of inflection, but the syntactic relations exist, whether the word is inflected or not. However, since English is the child's mother tongue, it is easier for him to discern these relations in this medium without inflection than in a foreign tongue with inflection. Why, then, in the name of pedagogical science, should we wait until the pupil is floundering in the unavoidable difficulties of Latin, in order to teach him the various uses of the accusative, or the dependence of clauses? He can profitably begin his study of grammar in English in the Third Reader grade, and can grasp all detail of sentence construction, that

does not involve historical study, within two years. He then begins Latin with a clear conception of the structure of the Latin sentence. I say he can do this, but he seldom does it, and the fault is not his, but his teacher's. I assert this after an almost uninterrupted experience in teaching English grammar since 1871, during which time I have probably spoiled as many potential linguists as would equal the students I have grounded on solid principles.

But my time is up. Such in barest outline is the field before you as I have found it. No one is more conscious than I how cursory this treatment has been — a glimpse here and there into vistas whose only boundaries are the limitations of spirit itself. I have attempted to answer a supposed question, Is there work here equal to the full stature of a man? I have tried to show you how many-sided this English work of the secondary school is, how it lays under tribute the whole man and all his knowledge. Perhaps to-day your illustration will be drawn from Norse mythology or the Greek drama; yesterday you defined pantheism or Neo-Platonism; to-morrow you will explain why the iambic pentameter is the English heroic verse, or develop the logical sequence of thought in argumentative composition. I leave it with you. Are you now master, with your disciplined powers, of the full possibilities of this work? Is any man? Face to face with such problems, and placed over against the youth whose eager, intellectual thirst you have awakened, how can you rust, or build about yourself the walls of routine? The spirit quickeneth, the letter killeth. We must work to bring life, not death. And to do this we must be ourselves alive, quick in our sympathies, broad in our culture, fully rounded men.

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TALKS ON TEACHING LATIN. V.

Senior, Tyro, and Miss Meyn.

WHEN they parted in midsummer it was understood that they would invite two or three friends to meet with them in the autumn. They had found the "Talks" stimulating and enjoyable; and partly because they wanted others to share their pleasure, partly because they thought that with an increase of their number their discussions might take a wider range, and gain in variety of ideas, the plan of a club of perhaps not more than six persons had been in their minds. That, however, was in the future. In the mean time chance brought them together again quite unexpectedly. It was early in September, at a small seaside place on the "Cape," where from different points they had come, as it happened, for a few days' change of scene and rest. They had come down to the same place to bathe; but after the first greeting they changed their minds and withdrew to the piazza of an unoccupied cottage, which stood only a few feet from the shore. Miss Meyn said she had rather have a good talk than twenty baths. Tyro thought he should find more than a compensation in replenishing his "small stock of ideas," which he hoped to do, and Senior expressed his preference for the society of his friends, and the pleasure of watching the lights and shadows on the bay, and listening to the ripple of the waves along the sandy shore, to all the good that he might get from a morning plunge.

The conversation soon reverted to their last meeting and to the topics which they had then discussed.

Miss Meyn. When our talk in July was ended, I thought everything in relation to the study and learning of forms was cleared up and settled. But further reflection raised a doubt in my mind. You dwelt, Mr. Senior, on the necessity of "double translation," from Latin and into Latin, as indispensable for the

mastery of grammatical forms; and I inferred that you would recommend as much translation into Latin as into English, and that the two sorts of exercises should be kept abreast. The authors of books for beginners in Latin imply the same. Examine the best of such works, and you will find that in the exercises for translation the number of sentences in the two sorts is about the same. Moreover they alternate regularly, a Latin exercise and then an English one. Now, my query is whether this is the best arrangement and procedure. It seems to me that it is vastly harder to translate into Latin than into English; and if this is true, why should not the former exercise be deferred, and the amount to be done at least, in the elementary stage, be materially lessened?

Ty. Why not rather materially increased, if the language is, so to speak, to be worked equally by both handles?

Sen. But I take it, the language is not "to be worked equally by both handles." It is important to acquire the power of reading Latin readily; but nobody would contend that it is equally important to acquire the power of writing Latin readily.

Miss Meyn smiled at this rather crushing reply and Tyro put on a comical expression of chagrin. Senior continued:—

Your question, Miss Meyn (I ought rather to say "questions," for there are two), goes to the heart of a most important matter. Let me take the last one first: Should translation into Latin go along parallel with the opposite exercise? I think we must distinguish between translation of separate forms, or groups of forms, as of adjective and noun, and the translation of sentences of some length, even when the sentences are designed mainly for practice on forms. Now, you will recall that our former discussion concerned the mastery of forms isolated or grouped in familiar combinations, and so far it seems to me we were right in our implication that there should be no great difference in the amount of practice of the two kinds, and that translation into Latin should go on step by step with translation into English. But when we pass from this simple form-praxis to the expression in Latin of related ideas, the exercise is, as you say, vastly difficult; it is a subjective process, strange to the learner's habits of

slow thought, laborious, discouraging. It must, at first, be kept in the background, and the writing of Latin should be deferred.

Ty. I do not yet clearly understand just what you would advise. You say that translation into Latin, as distinguished from mere "form-praxis," should be kept in the rear of translation from Latin; but in saying "the writing of Latin should be deferred," you seem to make a distinction that you had not hinted at before.

Sen. I would make a difference in practice between oral and written translation into Latin. I would not have any exercises written in advance work, and not in review, until they had been prepared by more or less oral translation and discussion in class. Recall, if you have learned any modern language in your mature years, how difficult it was to write correctly in that language. Yet you may have had, in the course of your education, a vast amount of that sort of practice, which to the young learner of Latin is utterly new and strange.

Miss Meyn. I see that in the "Beginner's Latin Book" a similar suggestion is made, towards the end of the book.

Ty. What do you refer to?

Miss Meyn. I refer to a remark at the beginning of one of the lessons on the subjunctive, advising that the turning of English into Latin be henceforth deferred till the book is finished the first time.

Sen. Yes; and it would have been well, in my judgment, if the authors had made such a suggestion at the beginning of the book, and repeated it here and there. They might, for instance, have recommended that none of the exercises for translation into Latin be written until all the lessons on the first and second declensions have been studied, and all the Latin exercises have been twice turned into English.

Conversation on this topic seemed to be fairly wound up, and for a few moments they sat silent, Tyro apparently absorbed in his own thoughts. Senior and Miss Meyn looking at some sail-boats and at the gulls flitting about in their restless way, probably looking for food, but seeming busy about nothing. Tyro was the first to speak.

Ty. The day after our last "talk," as I was thinking over our conversation, I recalled a remark of yours, Mr. Senior, to the effect that learners of Latin are often very poorly furnished, in point of vocabulary, after a year or more of study. I don't remember your exact words, but that was the idea, and thinking that very probably that would form the next subject of discussion, it occurred to me that it would be helpful to me to put together in advance such thoughts as I had. So I wrote out a short paper, which I should like to read for your and Miss Meyn's criticism.

Sen. I should be exceedingly glad to hear it. *Incipe, si quid habes, Tyro.*

Miss Meyn. And I, too. I have not met with anything more than incidental allusions to the subject. I promise you I will be a good listener.

Ty. (reads.) "It is evident that, in learning a new language, the acquisition of its vocabulary, or of so much of it as is in common use, is of the greatest importance. If we knew the meanings of the words of a foreign language, without any knowledge of its system of inflectional endings, even of languages so highly inflected as German or Latin, we could roughly make out the meaning of a printed page. And if the study of inflections is less important than a knowledge of the meanings of words, still more is it true that the syntactical structure of a language is of minor account; for while each language has its own peculiarities of syntax, the groundwork is the same in all. Again, as the vocabulary confronts the learner at the outset as his chief difficulty, so it remains the last obstacle to be overcome. One may read many books in a foreign language and still often find words the meaning of which he can only guess at. If these statements are true, ought not familiarity with the meanings of words to be made one of the chief ends from first to last in the study of Latin?"

"We have discussed the subjects of pronunciation and the study of inflections, and it is true that those matters must occupy very much of the learner's time in the beginning; but from the first day he must begin to learn the meanings of

words, and several questions at once arise. Should practice on forms and the construction of exercises for twofold translation be planned on the principle of employing the fewest possible words? The authors of 'Easy Latin Lessons' * call attention in their preface to the extremely few words in their vocabularies. On the other hand, the best beginner's Latin book that I have seen for German schools has a vocabulary of a hundred and thirty-five words for exercises on the first declension. Meagreness of vocabularies designed to be finally committed to memory is a great fault. It characterizes many of our American books for beginners in Latin, and must be one of the causes of the defective training already noticed. But excess is also to be avoided. No general rule can be laid down except, perhaps, that the learner should acquire words as fast as he can assimilate them. Assuming a proper training in inflections, his ability to read Latin will be directly proportioned to the copiousness of his vocabulary.

"In the next place, how can the acquisition of words be facilitated and their meanings be impressed upon the memory? Whatever means seem to offer any advantage, even the most trifling, should be employed, for the labor is arduous, and unremitting, and of long duration. Of minor helps, the placing and learning of vocabularies after translation exercises, instead of at the beginning, is one not to be neglected. First, to use a vocabulary for reference, in translating exercises, after it has been once or twice read over aloud, and then to commit it, instead of reversing the process, certainly lessens the strain upon the memory. Of more importance is the grouping of related words as fast as they occur. A learner will perhaps more easily remember the meanings of the four words, *aro*, to plough, *arvum*, ploughed field, *arator*, ploughman, *aratrum*, a plough, when they have each occurred once and then are brought together, than he would either one by itself. A single principle of vowel change may enable him to see the relation of the compounds, *maleficium*, *ædificium*, *difficilis*, *defi-*

* By Lindsay & Rollins. Published by Allyn & Bacon.

cio, and many others, to the simple *facio*. The same of innumerable other cases, and the detection of such kinships is as stimulating to the mind as it is practically useful.

"But it is somewhat later in the Latin course, namely in the reading of continuous texts, that this method can be most fruitfully applied; and one who has not had his attention called to it would be likely to be surprised to see how far the ordinary vocabulary of an author can be exhibited in a limited number of groups. Whether it is better for the learner to have this work done for him, or to do it wholly for himself, may be an open question; but it will pretty certainly be found helpful to have lists to refer to, to supplement his own observations. The only attempt that I know of to carry out this idea fully and systematically is illustrated in a little book called 'The Gate to Cæsar.' It may be a praiseworthy attempt, and I can see how the 'Etymological Vocabulary,' as it is a little pompously called, may be very useful. But the author has tried to do too much." (Senior seemed very much amused at these criticisms, but did not interrupt, and Tyro continued.) "Of what earthly use, for example, are the groups under 'pronominal stems'? I have taken the trouble to count the words under the root CA, CI; there are thirty-six words, from *qui*, *who*, to *nunc*, *now*, and *sic*, *so*! Now *à propos* of this list, one might be tempted to quote Voltaire's witticism: 'In etymologizing, the vowels are of no consequence at all, and the consonants of very little.' But that would not be quite fair. Doubtless the author could justify, on philological grounds, the right of every word to its place in the list. The objection is on the score of practical utility. I believe, on the whole, in having such word groups prepared to accompany the vocabularies in the learner's earlier, perhaps also in his later, reading; but they should be constructed solely with an eye to their serviceableness in increasing the pupil's vocabulary.

"But it may be said this method of classifying words does not touch the greatest difficulty in the acquisition of a vocabulary. That consists, not in detecting the kinship of words sufficiently to guess out the meaning, but in getting the different meanings of the same word. Boys seldom know more than one meaning

of a Latin word. The chances would be about three to one that a boy could not give two distinct definitions of *facio*. But how various are often the meanings of a Latin word. What cannot *res*, for example, mean? I should think *ago* might have fifty quite different applications. In fact, the great variety of meanings that Latin words will bear, constitutes, as is well known, one of the greatest difficulties of the language. It is, perhaps, more of an achievement to know well all the meanings of *consisto* than to be able to group together all the words that spring directly from the root of *sto*. By what method is a vocabulary in this sense to be acquired? Only by perpetual observation and comparison, in reading, of different uses of the same word. Special dictionaries and vocabularies must contain copious references to facilitate comparisons, and the teacher should make this a distinctive feature of his instruction. I well remember how rapidly I acquired a Homeric vocabulary in school by the diligent application of this method. When we began Homer, it was made clear to us that we must 'break the back' of the vocabulary. No questions were asked us on syntax, but a great deal of time was spent, in recitation, in comparing different meanings of the same word in passages already read, never in what was new to us, as well as in the comparison of words having some common element, by which the meaning could be more or less accurately determined. In this way we made rapid progress in reading, we gained a sense of power, and we formed a habit that I have found of great value. It is a great gain when the impulse to turn to the dictionary for a definition gives place to the impulse to discover in the word itself some clew to its meaning, and to associate it with some other word.

Two other principles of comparison I recall. We used to associate, as they occurred in our reading, words of opposite meaning, and all the epithets of certain gods, persons, or things, as of Zeus, Nestor, a ship, the sea. To sum up, it is vastly important that the teacher of Latin should appreciate the need of systematic instruction aimed directly at the central knot of difficulty, the vocabulary; and that he should use every expedient that reason and experience suggest to lessen the

strain upon the memory and cultivate habits of observation and comparison."

Sen. Well done, my friend! you have thought the subject out with a good deal of thoroughness, and have said about all that there is to say. But I notice that you make no reference to associating words of like meaning not related in form or origin. Now I have lately seen a book in manuscript consisting of just such groups. How does that strike you?

Ty. I think it would be well, but it had not occurred to me. But would not the range of such groupings be very limited, and so of less value than those mentioned?

Sen. Not that I can see. One of your principles of association was that of opposites; as, for instance, *gaudeo* and *doleo*. Now the words of meaning similar to *gaudeo* are likely to be about as numerous as those of opposite meaning. And there would be this advantage in the comparison of synonyms, that one would often be led to think why a word of similar meaning could or could not be substituted in a given passage, while there would be no reason for weighing in like manner different opposites.

Miss Meyn. Would not the interpretation of less familiar words by the more familiar, point in the same way?

Ty. How do you mean?

Miss Meyn. I mean, for example, it would be better to put in the margin such words as a boy would be pretty sure to have to look out, and against each of these a familiar word, that might perhaps stand in its place in the text; thus, *subsidiūm* might be defined by *auxiliūm*; *protinus*, by *subito*; *strepitus* by *clamor*; *introrsus* by *intra*; *commode*, by *apte*. Or these might be given orally by the teacher in class.

Sen. I cordially approve of that. It is one of the best ways to increase a learner's Latin vocabulary, and I wonder the method is not more used.

Ty. That is done in "The Gate to Cæsar," to which I referred a little while ago, but I am bound to say it is somewhat overdone. There seems to me to be a number of useless repetitions. However, it is a fault on the right side, for I entirely agree with you, Mr. Senior.

Miss Meyn. Then, too, I don't see why it wouldn't be helpful to group words by significant endings, as, for instance, adjectives in *-osus*, nouns in *-tor*, iterative verbs in *-ito*, and so on.

Ty. I don't agree with you. Suppose a dozen adjectives in *-osus* were brought together; the force of the ending would not be made any more apparent, and the ending being the only bond of connection, one word would not suggest another, as they happen to be found isolated in reading.

Sen. You said nothing in your paper about reviews. I see that Prof. White, in his "Beginner's Greek Book," gives, at intervals, lists of a page or so of words that have already occurred for review. This seems to me a mistake. The beginner needs all the help that local association will give. Therefore reviews of words in special vocabularies should be made of the words *in situ*. To displace them and arrange them in alphabetical lists is to pull them up, as it were, by the roots.

Ty. How would you treat words that have been compared in the text of authors read? I mean how would you manage reviews of these, or would you not review them at all?

Sen. I certainly would review them, and it is easy to do so. It is my practice, whenever I refer my class, in the case of any word or phrase, to a previous instance of its use, or to another word containing the same root or stem, which has already occurred in their reading of the particular book or author, to direct them to write in above the word, with a fine-pointed pencil, the page and line in which the word referred to is found. Let me illustrate. The word *versor* occurs nine times in the four Catilinarian "Orations" and in the "Pro Archia." It is used in several different senses, and it is not easy for the student to fix its exact meaning in each instance. It is therefore one of the words which I mark for reference. On each fresh occurrence of it the pupil makes a reference to its last previous use, and when he has read the five orations, he can compare, in a minute or two, all the uses of this word. Or, if you choose, when he has read the first of the five, he can compare the three uses of it in the text of that oration. Now these references, being designed to increase the learner's practical knowledge of words in two

ways, will commonly be made only in words that offer some difficulty, or that would have to be looked out in a vocabulary or a Latin lexicon, and so are the ones most needing to be reviewed. The teacher is supposed to make the same references in his own text that he directs his class to make, and it is therefore perfectly practicable to pick out the words to which attention has been called. Let my experience suggest one caution. Never make comparisons of perfectly obvious relationships between words, or, if at all, only by the way. It is easy here, as everywhere else in teaching, to fritter away time. I used once to be so greedy of such comparisons that I could hardly let a single instance pass unnoticed; and if I were to show you my Homer, you would see hundreds of comparisons made that I have learned to pass by in silence.

Miss Meyn. I wonder, Mr. Tyro, that you made no reference in your paper to a new device for calling the attention of the learner to the first occurrence of words in a Latin text, by printing them in bold-face type, while all other words are printed in common type. This is illustrated, as you doubtless know, in the new *Harper's "Caesar."* It seems to me admirably simple and effective. The learner is reminded in a way that he cannot be insensible to, every time a new word occurs, that he ought to make a fresh addition to his vocabulary. These words are scattered along as so many signs, "Look here."

Ty. I think I must dissent from your opinion *toto caelo*. In the first place, attention is called too exclusively to new words, whereas the same words need to be studied again and again. That a word is new to the learner is not necessarily a reason for his concerning himself especially with it. The importance of the word for one reason or another is the main thing. There are perhaps several hundred, certainly many scores of words in Homer that occur but once or twice, and for that reason they are precisely the least important. Then this device makes no account of new meanings of old words, which I conceive to be of more importance than the information that a word is new. It therefore places the emphasis on the wrong thing, or in the wrong place. Now, is not the art of putting

the emphasis in the right place of the first value in every detail of education?

Miss Meyn. I feel quite crushed. (Hereupon Miss Meyn began to fan herself vigorously.) But I should like to know Mr. Senior's opinion.

But apparently Senior had not been following the discussion between Tyro and Miss Meyn, and as he made no reply to the latter's remark, they turned towards him with a little surprise. What had diverted his attention and brought sad thoughts? Perhaps the scene about them, the chirping of the crickets, the sere grass, the changing foliage, and the mild melancholy light of an early autumnal day, had recalled to his mind an autumn not far gone that was full of happiness and hope. They did not know. But they saw *ἀλλ' ἐνόησε* as he sat looking into the distance, and they silently pressed his hand and went away.

WM. C. COLLAR.

ROXBURY LATIN SCHOOL.

THE EXTENSION OF PHYSICAL GEOGRAPHY IN ELEMENTARY TEACHING.*

THE attempt is made in the elementary teaching of geography to give the pupil some idea of the form of various land areas. The chief means of accomplishing this large task are ordinarily found in a brief chapter treating of descriptive or of physical geography, and introducing certain terms, such as plain, plateau, mountain, valley, river, bay, cape, and so on. Various land areas are afterwards described in accordance with this terminology.

It is my contention that the definitions of the terms thus introduced are not, as a rule, well founded on a clear comprehension of the essential principles of physical geography, and that in too many cases they have little to do with physical geography, being simply descriptive, and not physical at all. To make this clear, I shall illustrate what seems to me the important difference between the divisions of the subject.

Descriptive geography attempts to characterize the infinitely varied forms of the land in an absolute manner, without reference to their origin, and with little consideration of their natural relations. A cañon is simply a narrow valley, not a young valley. It is represented as differing from other valleys simply in width, not in age. A valley is a depression of greater or less width between adjacent higher masses; its origin, by deformation of the earth's crust, or by the destructive agencies of the weather, is often omitted as if irrelevant, or as if it should not be mentioned because the subject in hand is not called geology. A bay is an indentation of the coast line; its production by the drowning of a valley is unmentioned.

Physical geography attempts to arrange the forms of the land in a natural order, dependent on their evolution under the com-

* An Address delivered before the Middlesex (Mass.) Teachers' Club, in Boston Oct. 8, 1892.

bined action of internal constructive forces and external destructive forces. The cañon of the Colorado is then represented not simply as a deep and narrow valley ; it is narrow because it is still so young that it has not yet had time to grow wider ; it is deep because of its precocious development, resulting from the great height of the plateaus in which it is incised. The valley of California is taken as the type of a large valley of construction, formed by the uplifting of mountains on either side ; the valley of the Hudson, or of the Ohio, might be presented as the type of a valley of erosion, both of these being wider than the cañon of the Colorado because they are older, and less deep because the land in which they are eroded is not so high as the plateaus of Utah and Arizona. Certain irregularities of the seacoast are rationally referred to the effects of the submergence of an eroded land area ; thus Delaware and Chesapeake bays, Albemarle and Pamlico sounds, are simply named "drowned valleys," a phraseology that any child may understand ; rivers like the Hudson, having large volume, although fed by a small drainage area, are called "drowned rivers," because their volume is dependent on their submersion beneath sea level.

Descriptive geography, or that which ordinarily passes for the physical geography of the land, as occasionally presented in text-books or employed in teaching, lags far behind the present state of knowledge of land sculpture. The understanding of the features of the land surface has advanced wonderfully in the last half century, even in the last quarter century ; but the texts, in most cases, seem as if they were written on the basis of an earlier and much less extended knowledge. They are extremely timid regarding the destructive work of the weather. They are sadly incomplete regarding the manifold effects of glacial action. They are deficient concerning the meaning of the varied forms of the seacoast. I believe that the chief reason of these various shortcomings is to be found in the want of a practical knowledge of field geology and field geography on the part of the authors of text-books. No worthy knowledge of physical geography can be gained without such a preparation. The time is past when it is admissible to describe the surface of the land independently

of the structure beneath the surface, and without regard to the forces that have attacked the structure, reducing it by greater or less amounts from what it was originally towards what it will be ultimately. A description of the land that is inattentive to these manifest and natural processes of evolution is in the highest degree arbitrary and antiquated.

The rational understanding of the features of the land surface can be advanced only by the introduction of some natural system of description of land forms, based on the natural processes of their evolution. I shall refer here only to the system which seems to me most satisfactory. This begins by classifying all regions according to the geological structure, on which their initial constructional form depends; it then sub-classifies them, according to the degree of advance that has been made by the destructive processes of erosion in reducing the original constructional form to its ultimate extinction in a lowland of denudation. I shall not delay here to consider the complications that follow from the interruption of one cycle of destructive work before its completion by the introduction of a new constructive process; all this may be logically included in the fully expanded statement of the system. It will be sufficient now to illustrate its application by a few simple examples. But before doing this, we must recognize carefully the different positions taken by the pupil and the schoolmaster with regard to the subject.

The aim of the entire undertaking must be kept in mind. It is to give our school children so clear an idea of the more common forms of the land that they may appreciate them when reading or when travelling about over the country, and utilize their appreciation by gaining a better understanding of history, past and present. For this purpose a series of selected and emphatic examples should be presented, fully illustrated by diagram or model. The variety of illustration cannot be great, but it should be sufficient to enforce an understanding of young and old forms, of elevated and depressed coast lines, of normal and accidental events in river history, and so on. Each of these examples should be enforced by the selection of some particular region which serves as its type. The promi-

nence given to one or another division of the subject may depend largely on the opportunity afforded by the surroundings of the school. The whole world cannot be covered, but a clear understanding may be given of features which have a world-wide distribution, and whose more especial occurrence may, if desired, be made the subject of later study. But in the selection and presentation of examples, it is essential that they should follow in a natural order, and that the teacher should be acquainted with the system of nature to which they all belong.

A parallel may be drawn with the teaching of botany. A class, at the beginning of this subject, is taught a variety of terms in giving names to the various parts of plants; preferably from the plants themselves, or, in lack of that, from good drawings. The terms thus taught are selected from a much larger number familiar to the expert botanist; taken all together, they have a rational bearing on the natural relationships by which different kinds of plants are classified, and by which their processes of growth are explained. The simpler processes of growth are considered in early teaching, and the genetic relation of various parts is thus brought to light. The essential point here is that the introductory teaching of botany should be guided by an understanding of the whole subject on the part of the teacher, and not simply by a verbal knowledge of the elements that the scholars are to learn, or by a knowledge, however extended, of the medicinal or agricultural uses of plants. Geography, on the other hand, is too often taught as if it were an entirely separate subject from geology, and not merely a subdivision of the study of the earth as a whole. It is a misfortune that we have no English word to include both these studies. It might then be easier to ensure a general knowledge of the whole science on the part of the teacher, even if his scholars were to learn only the rudiments of one of its divisions.

The teacher of elementary botany must know something more than he is expected to teach. He must be reasonably familiar with the more difficult orders, of which little mention need be made in elementary classes, as well as with the simpler orders from which nearly all elementary illustrations are drawn. He

must know something of the more obscure processes of growth concerning which a class of beginners can learn little, as well as of the more manifest processes which every child may observe. Otherwise, the teacher would not be qualified in the modern sense of qualification.

The teacher of elementary geography should, in like manner, be familiar with the general system of classification of land forms, and the fundamental principles of geology on which the classification is based, as well as with the larger natural and political divisions of the world, their physical features, inhabitants, and so on; and the fundamental principles of geology here referred to should have been learned in the field, not in the classroom; otherwise, they are as artificial as the knowledge of botany that comes only from books. The information of the teacher must go beyond that expected of the scholar in order to make his teaching safe and sound. Teachers sometimes claim to teach more than they know; but I have never heard this claim quoted with satisfaction by the teachers' pupils. With this explanation I may now return to my theme, and illustrate what is meant by a natural system of physical geography, indicating at the same time something of the difference of knowledge expected of teacher and scholar.

Mountains early claim a scholar's attention. They may have had abundant narrative and descriptive illustration in the earlier classes of the grammar schools. The Alps may be taken as examples of vigorous mountain forms, important alike from their height and from the frequent mention of them that the scholar will afterwards meet in history, if not in travel. Later classes come to the more physical consideration of mountains; and besides the many interesting matters concerning climate, fauna, flora, resources, occupations, and other factors controlled by their form and altitude, questions will arise as to the relations of lofty mountain ranges to other parts of the earth. The first basis of correlation is found in the mountain structure. Mountains are prevailingly regions of crushing and elevation by constructional processes, whereby the rocks of the earth's crust are given a disordered attitude. For a time after the mountain

making, the form and height due to the constructional processes of growth are preserved; but this is only temporary, and for the rest of the mountain's life, form varies and height decreases from their initial values. Hence while all regions of crushed and disordered structure may be included under the general class of mountain regions, the maintenance of mountain height is a transient characteristic; mountains are lofty while young; but from that time on, unless rejuvenated by renewed processes of crushing or uplifting, they are worn down lower and lower, and finally only the lowland stumps of the original mountains remain. From the time of youth when massive constructional forms reared their summits to the clouds, to the time of maturity when the processes of sculpture have added variety to the simpler forms of early construction, and to the time of old age when denudation has reduced the region to a lowland surface of faint relief, there is a simple and systematic change of form. Unless renewed uplifts intervene to restore the altitude lost by erosion and thus delay the final consummation (and this, by the way, seems to have been a common exception to the simpler rule), there is no permanence in mountains. However permanent they may be in matters relating to human history, the real physical relation of mountains cannot be perceived without studying mountain history. Their growth, their wasting away and their final extinction must be recognized. The chief postulates on which this statement rests are simply that the earth's crust suffers deformations; that destructive processes shall prevail on surfaces which arise above the hydrosphere into the atmosphere; and that time is long. These postulates are all extremely safe.

I believe that all this general matter should be clearly in the mind of the teacher. How far he may pass it on to his scholars will depend on many things. He must consider their mental quality; not simply their standing in school, but their associations out of school, on which the success of teaching so largely depends. He must examine the opportunity for local illustration of relevant facts, such as the tilting and disorder of rock structure; abundant illustrations of disorder may be found all

along our Appalachians ; but in the Central States, the rocks are not only generally covered over by loose materials, but when seen, their strata lie horizontal. His advance will depend in part on the supply of diagrams and models and more on his ingenuity in making them ; but more than all, it will depend on his own familiarity with the facts of the case and his boldness in presenting them, whether mentioned in the text-book or not. I believe that a teacher who has made a vacation excursion, on foot, if possible, across the mountains of Pennsylvania, and thus come to an appreciation of their extraordinary structure, as deciphered by the geologists of that State ; who has extended the knowledge thus gained by a general study from books and maps of other mountain structures ; who has in some way or other found or made a series of illustrations by which the facts that he wishes to refer to may be illustrated to his classes, and who has the good fortune to have classes of intelligent and well-taught scholars,—such a teacher will successfully present the problems here considered, with satisfaction and instruction to his scholars.

If the extinction of mountains by denudation, or by “baselevelling,” as the word goes among geologists, were simply an ideal supposition, without actual occurrence ; if its occurrence were known only in the remote regions of the world and did not concern our home geography we might have little regard for it ; its place would be better taken by something of local value. But fortunately for the variety of geographical teaching, the baselevelling of mountains is not an uncommon or remote fact. We here in New England live on an old baselevelled mountain region. Our rock structures are crushed to a degree that find a close parallel in the structures of lofty mountain ranges. It is only an indolent conservatism that fails to recognize the former existence here of a mountain range of great height, perhaps as high as the Alps of to-day ; and therefore as closely comparable with the Alps as the decaying trunk of a prostrate oak is comparable with a vigorous shoot from an acorn. They do not look alike, yet the Alps show us the past of New England, just as New England discloses the future of the Alps.

Climb to the top of any hill near Boston and notice the remarkable accordance of height among all the surrounding hills. They unite in a sky line of extraordinary simplicity. Look at their rocks, and recognize everywhere the signs of great disturbance and deep erosion. How can a disturbed and deeply eroded region possess a generally accordant upland surface unless that surface is the baselevel down to which all the superincumbent mass has been reduced by denudation! It need not be imagined that the old mountains were absolutely worn out, and that a geometrical plane was produced. A lowland of gentle relief, an almost plain surface, a "peneplain," with here and there remnant hills and mountains rising somewhat above its softly rolling surface, gives a fairer picture of the form to which mountain ranges fade in their old age.

No proper appreciation of our local geography can be gained until the observer has perceived this dominating upland surface, above which our Wachusetts and Monadnocks ascend five hundred or a thousand feet, and beneath which our present valleys sink by a similar measure. No one who believes that physical geography extends beyond the limits of descriptive geography towards an understanding of the natural relations of land forms, will be satisfied with the recognition of this old baselevel as an unexplained fact. The meaning of the fact is reasonably desired; fortunately its meaning already comes within the limits of our high school teaching, and in the next generation, or sooner, I think it may be extended downward into the grammar schools.

It is not intended to present here a full account of the system of physical geography adopted in my college teaching, nor to give a full statement of the physical features of southern New England. A significant characteristic of this region is selected to illustrate the adopted system, both of which I have considered more fully on other occasions, and which can be touched on only lightly in a brief address. Indeed, I trust that the reader has perceived a certain discrepancy between the conditions implied in the explanation of the upland of southern New England as an old baselevelled mountain region, and the considerable altitude

at which the greater part of it now stands above sea level. An old mountain region, reduced by the processes of denudation to a lowland of moderate relief should stand close to sea level, and the streams should be powerless to sink valleys beneath its general surface. Residual mountain stumps might rise moderately above it, but valleys should not extend below it. The present altitude of our New England plateau and its dissection by valleys, some of which are more than a thousand feet deep below the plateau upland, must therefore be taken to prove that since the baselevelling of the region it has suffered a gentle uplifting whereby all its old rivers were given a new lease of life and their activities again quickened; and in accordance with this opportunity, they have all set to work to reduce the region to the present baselevel; but they have not as yet advanced far in this task. The valleys are well begun, but the greater part of the plateau mass still remains.

If one travels inland west from Massachusetts Bay or north from Long Island Sound, the upland surface of the plateau will be found to ascend gently, from sea level at the coast line to an elevation of sixteen hundred feet or more in northwestern Massachusetts and even higher further north. The uplifting of the old baselevelled lowland must have therefore been accomplished by a slight tilting; the part that we now live on rose above its former level; but another part sank, and is now under the Atlantic; the two parts forming a single inclined plane.

The largest valley that has been excavated in the uplifted portion of the old lowland is that of the Connecticut; because its course follows a belt of relatively weak red sandstone across Massachusetts and Connecticut almost to the sea. This valley indeed deserves the name of a lowland of the second order; for its surface is generally of moderate relief, near present sea level, and it stands distinctly below the uplands of the plateau of harder crystalline rocks to the east and west. But at several points in the valley-lowland, we find ridges of hard volcanic rock that have withstood the erosion under which the red sandstones have wasted away; such are Mounts Tom and Holyoke in Massachusetts, and the Hanging Hills of Con-

necticut. These are residual mountains with respect to the surrounding valley lowland, just as Monadnock and Wachusett are residual mountains with respect to the upland plateau. Monadnock and Mount Tom are both residual mountains, but they belong to different generations of development ; to different cycles of geographic evolution.

I have introduced this latter point as an illustration of the more detailed knowledge that I should hope the New England teacher should possess ; but which might be omitted from his teaching, and yet I have hopes that, within a half century, precisely such facts as these will be the subject of ordinary instruction. Reference has already been made to the downward extension of high school subjects into the future grammar schools. Such is the usual course of events. Microscopes were once the treasures of the few learned men ; now they are familiarly employed in any ordinary school teaching of botany or zoölogy. The isolation of oxygen was enough to make a chemist famous a hundred years ago ; now it may be isolated in any school laboratory. The distances of astronomy and the remote ages of geology were obstinately denied by all but the most learned of earlier generations ; now they are taught to our children, or if they are not, we regard the school from which they are excluded as misplaced in this end of the century. Modern scientific education above the primary grades includes subjects known for the greater part only to the few a short time ago. We need not doubt that the teaching of geography will be benefited by the introduction of newly discovered facts, just as the teaching of other subjects has been. Let us not hold back from this advance, but press forwards to it. When our school-masters learn the modern developments of physical geography as they have learned those of botany and zoölogy, when our schools have geographical laboratories as well provided as are the laboratories of physics and chemistry in the best schools of to-day, then the extension which we are now urging will be the commonplace fact of public education.

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EDITORIAL.

It is delightful to observe with what assiduity many of our colleges are cultivating the new fields opened by the university extension movement. Whether this activity be permanent, or only evanescent, the popularizing of higher education is in itself a present good, aside from its tendency to lead to what is of greater value. But it is a matter for regret that our older colleges in New England have discontinued an earlier practice which was in reality an extension of university privileges to a deserving class of college graduates. Once on a time the possessor of a bachelor's degree, who had become a teacher, and who, nevertheless, found time and inclination to pursue lines of study and research suggested by his undergraduate work, could obtain from his *alma mater* cordial direction in such pursuits, and rewards for the attainment of success. Non-resident courses, looking toward the master's degree in arts and the doctorate of philosophy were available at several institutions east of the Hudson. But in these latter days we have changed this somewhat. In some institutions the master's degree may still be taken by study *in absentia*; but the doctor's degree is now attainable in New England only by residence for a stated time within college halls. No one can complain if institutions which confine themselves to collegiate work relinquish some part of the task of supplying direction in post-graduate work. Colleges, as such, have properly nothing to do with the doctorate. But institutions which attempt graduate instruction at all may well consider whether their duty to education does not include the stimulation and direction of their teacher-graduates. There are not a few of these, perhaps more generally to be found in colleges and secondary schools, who would gladly avail themselves of the privileges now so richly offered for graduate study, if they were not held to their teaching by necessities growing out of domestic responsibilities. These cannot live in

residence at the colleges, even if fellowships are secured. They would be desirable students, — even more desirable than the mass of those who listen to “extension” lecturers. They need the encouragement and aid which seem to an observer from without possible to be given by regular correspondence, and by occasional conferences of a Saturday or in vacation. Among them are some who would, as others did in the past, persevere to the earning of the doctorate. There are precautions to be taken, of course, lest the prizes of scholarship be unworthily bestowed; but such details are mere matters of administration. In these days, non-resident study is regarded with more consideration than once it was, and professors are flitting about on weekly visits to untrained classes scores of miles from academic halls. This is well. But ought not something similar to be done for trained students who aspire to the valued degrees, and cannot attain them by the avenues now open? These are *alumni*, to whom the universities appeal ever and anon for a recognition of the ties that bind them to their fostering mother. Are these oft-mentioned obligations binding upon but one of the two parties in the case? Here is an opportunity for the colleges to give as well as to receive.

Is secondary education a distinct and separate interest? The men of the colleges often regard secondary schools merely, or mainly, as feeders for higher institutions, leaving out of account the great majority of secondary students who climb no higher upon the educational ladder. On the other hand, the men of affairs whom the people elect to service on school boards, are more likely to see in high schools and academies simply more advanced elementary institutions, — the apex of the conventional system of graded schools. And in each of these diverse judgments there is something of truth: the secondary school has indeed relations with the college and with the elementary school, and must have regard to both. Yet there is more to be said upon the question. “There is, in nature,” says a recent letter, “a real entity called the youth, distinct from the child and distinct from the man; and the education of this interesting being,

the pubescent, irresponsible, wayward creature, is clearly a secondary education, and by no means either a primary or a tertiary one." It follows that in secondary education we must live a life far larger than is embraced within the function of fitting for Freshman work in college. An independent pedagogy must be wrought out by the study of the science of education from the secondary point of view. This is a work, moreover, which secondary teachers must do for themselves. The general public will not demand it; the colleges have their own problems to solve. Let us be grateful that the rising tide of professional interest among secondary teachers bears strong promise that ere long secondary instruction will proceed upon a strictly scientific basis to the accomplishment of broad and well-defined aims in the education of youth.

WITH this number *SCHOOL AND COLLEGE* completes its first year. Its origin was in a conviction that good service could be done the cause of education by a periodical that should unite college professors and teachers of secondary schools in an earnest, but friendly, examination of the problems in which they have a common interest. Each succeeding month has brought evidence that this conviction is shared by many. If frequent letters and words of commendation can be relied on, the magazine has been found helpful and stimulating to its readers, and occupies a warm place in their esteem. It has been counted especially fortunate in respect to the contributors whose services it has been able to command. Some of them have been recognized as the most effective of present writers on educational themes, and these have had no reason to be ashamed of the company they keep in our table of contents. This has been made possible both by the liberality of the publishers, whose management of the financial interests of the magazine has been upon a most generous scale, and also by the kindly spirit of these contributors themselves, for whose work it has been impossible at times to make an adequate return.

To the editor the connection with the magazine has been a constant source of pleasure. His work upon these pages has

never been a burden or a source of anxiety. It has made for him many new friendships which he values, and has strengthened more than one old one. It has, by necessity, centred his reading upon the group of themes which are of all the most interesting to him, and has brought him into closer touch with thinkers in many quarters whose interests and aims are similar to his own. It has broadened his views of secondary and college instruction, and has intensified his earnestness as a teacher. Indeed, whatever good the magazine may have done to others, it has sometimes seemed that to no one could it be richer in help than it has been to the editor himself. Certainly he cherishes a strong feeling of gratitude toward all his co-laborers upon the magazine for their efficient aid, and by no means less toward the publishing house which not only originated the enterprise, but from the beginning has placed its resources, without limitation or restraint, at the editor's command.

The close of the year has, however, brought occasion for an outlook into the future, and for corresponding readjustments. As a consequence, it has been determined to discontinue *SCHOOL AND COLLEGE* as a separate periodical, merging it in *THE SCHOOL REVIEW*, which will be conducted under the editorship of J. G. Schurman, LL. D., President of Cornell University. To this new periodical the publishers and editor cheerfully transfer the "good-will" of *SCHOOL AND COLLEGE* with the heartiest wishes for success and usefulness. To all subscribers whose time will expire during the first half of 1893, *THE SCHOOL REVIEW* will be sent for the unexpired term. To those whose time will expire during the last half of 1893, and to any others who indicate a preference to this effect, the publishers will send a check for the balance due.

For details setting forth the scope of *THE SCHOOL REVIEW*, and outlining its methods of work, our readers are referred to another page of this number. The name of the editor is a guarantee of able and broad spirited management, and the plans proposed augur well for the production of a thoughtful, serviceable, and progressive magazine. It will be observed that one marked difference exists between the two magazines in point of

range. While we have aimed to touch both collegiate and secondary education and to emphasize the points of interest these have in common, the new enterprise will be devoted exclusively to secondary and primary education. The needs of secondary teachers, therefore, are not likely to be neglected. The small but increasing number of college teachers who feel that higher education should be discussed from a pedagogic point of view will, doubtless, find in the *Educational Review*, or elsewhere, ample opportunity for an exchange of views. Moreover, no adequate treatment of the problems of the secondary schools now seems possible without a consideration of their relations to higher institutions. It is earnestly hoped, therefore, that our readers will give to the new magazine a cordial welcome, and will find in it a valued auxiliary. Cherishing this belief, SCHOOL AND COLLEGE bids all its friends a grateful adieu and retires in the train of the departing year, to reappear with the new year, in spirit and purpose, between the covers of Dr. Schurman's SCHOOL REVIEW.

NEWS FROM ABROAD.

ENGLAND.

UNIVERSITY EXTENSION.

WITH the beginning of autumn our thoughts turn to various ways of spending long evenings, and amongst others to University Extension Lectures. It is possible, I hope, without offence, to mention the movement as providing recreation as well as instruction. Any one who inspects such a chronicle of activity as the "Oxford University Extension Gazette" will recognize the solid work accomplished; but a critic will also see signs of something lighter, and the general impression left on his mind will be that there is an attempt to satisfy two or more distinct and different requirements by means of machinery constructed for only one of them: he will feel that there is some risk of energy being dissipated, and possibly he may think that some of the most pressing needs of the country are left unprovided for, and that the universities ought to be called on to extend themselves in other ways besides "University Extension."

Let us say at once that it is impossible too strongly to condemn the unworthy sneers which are indulged in at the expense of the more popular side of the lectures, and especially at the courses in literature and in subjects falling under the head of Social Science. These lectures do much good, and not only to the comfortable classes, but also to the "working man," in whose case it is something if we can establish a "calling acquaintance" with the universities. Some people think nothing has been done unless study has been made thoroughly painful and wearisome. But no one who has seen Mr. Moulton holding the attention of an audience of six hundred will deny that much has been gained. Higher and wider views of life have been suggested, intellectual interests aroused; bad words, bad plays, bad verses, have been discouraged; an example has been given of logical method and analysis. And again it is good to get from a "working man" the opinion (Oxford University Extension Gazette, August) that "there is a mind and soul in man that demands something more than the three Rs and a technical training": that "there is need of the merchant and the craftsman, but the citizen is a greater necessity." It must also be noted from the point of view of the local committee that we must have either an attractive course or a deficit in the funds. In

many centres there is financial difficulty, and we may well allow a little rhetoric in the lecture and a little repartee in the class sooner than close our doors altogether. In such cases we do what is possible, and if men and women who have mostly to spend the day in earning a livelihood in other ways attend lectures, and derive a substantial amount of good from them, it is surely no cause for sneering if they do not attain to professional accuracy. We ought to keep the standard as high as possible, but not to despair so long as we can get an audience for university subjects.

Is it, however, to many of us, an open question whether with large general audiences there is any profit in examinations and certificates. But for the fashion or superstition of examination, and for the satisfaction of having "something to show for one's time," we might very well be content with the university lectures without importing a counterfeit of pass and class. Such things are, on the one hand, redolent of "status pupillaris," and repel some young adults in consequence, while on the other hand they quite fail to meet the wants of those who are studying "for their lives," pupil teachers, for instance, London undergraduates, and those who seek technical instruction. It seems impossible to mix these latter with the general public. One third of the lecture which suits the amateurs is for the others a waste of time. Even in the class there is not the individual attention which is necessary, and above all there is not the criticism, either in the periodical paper work, or in the final examination, which could alone make the course or the certificate really valuable and significant. One of the staff lecturers has stated (*Oxford University Extension Gazette*, August), that the periodical essay is intended primarily "to afford an exercise in the methods of composition and expression," and a correspondent remarks (*September*) that the comment of a lecturer in the privacy of his study is, too often, "atrocious"; but that comment becomes in public, "the papers are upon the whole satisfactory." And it is not to be believed that the tendency is very different in the final examinations. It may be worth while to continue both class work and essays as a means of catching the best of the general audience, and of correcting misunderstandings of the lecture; but on the whole this is not the sort of work that entitles teachers to public money or to incorporation in a teaching university; and there is a growing conviction that some clear division will have to be made of the distinct classes requiring university teaching, and that the organization must be modified accordingly.

There is also a suspicion that "University Extension" has not yet attempted much that might be done by our National Universities. We can see that our secondary education has been powerfully influ-

enced by certain broad features of the last twenty or thirty years, by increased population, increased industrial competition, increased specialization, and by developed democracy. Whatever the relations of these tendencies among themselves, their effect is apparent. Classes which were below the reach of education are now educated compulsorily, so far at least as to put them on the border of secondary education, and are at the same time obtaining more leisure from their mechanical occupations: this means that there is an ever increasing number of persons who are able to acquire knowledge, whether technical or humanizing. On the other hand classes that used to allow their sons to remain at school till they were almost men find it necessary to put them early to some special and practical means of livelihood. For the effect in question it does not matter much whether the specialization and practical life is begun by leaving school for business or by introducing business subjects into the school curriculum. In either case there is an increase of persons whose general education when they leave school is incomplete, but who have a certain amount of time and inclination to supplement it afterwards. They cannot be members of a university in the traditional way, but they demand knowledge, and by consequence university recognition.

It has been pointed out that formerly book-learning had to be acquired at school or college or not at all; practical life, once begun, left no time for it. To-day, on the other hand, it is becoming possible to read books for an indefinite time in the intervals of a directly useful occupation. The knowledge demanded is, of course, of two sorts, technical and general, though, in some cases, — the modern languages for example, — the dividing line is hard to draw. Opinions may differ as to whether the older universities should attempt the supervision of technical instruction; but there can be no doubt at all that Oxford and Cambridge will be false to their trust if they allow general culture to perish, when they have the opportunity not only of (1) counterbalancing the effects of early leaving and early specializing, but also of (2) diffusing scholarship among the masses, to an extent never before possible. It is, of course, the first named of these opportunities that most concerns the secondary schools: it affects their curriculum. High authorities have said that Latin, for example, cannot usefully be taught to boys whose destiny is commerce, for the reason that there is not school time enough for them to arrive at any tolerable proficiency; and it is assumed as the basis of this argument that, though modern languages may be continued, Latin stops dead the instant a boy leaves school for business. But how sweetly would basis and argument disappear together, if the universities were to put forth their strength, and, adapting their machinery to the change of

conditions, promote and reward the study, wherever prosecuted, of a language which they consider indispensable to right thinking. There is therefore not a little to be said in favor of Mr. M. E. Sadler's proposal for a "B. A. Extension degree," to be attainable by persons engaged six or eight hours a day in a factory or shop. It does not seem necessary that the degree should be "B. A.," or that it should include all the subjects of the existing examinations. What is necessary is university recognition of university teaching; the recognition to be that of a board above the suspicion of leniency, and the teaching to be controlled by university officers. But as yet Mr. Sadler's cry is uttered more or less in the wilderness. Such proposals (though he does not seem to acknowledge it) involve something very different from University Extension as we know it. Languages (whether ancient or modern), mathematics, and strict science are little adapted to large lectures, and for a university degree most of the favorite "Extension" subjects would be optional. The work, if taken up by the universities, would rather be a rekindling in dark places of the lights hitherto kept dimly burning by the noble and unostentatious efforts of institutes and local colleges. Such efforts have not in times past been without their reward, but it has not come through Oxford or Cambridge. It has been said, not altogether unjustly, that the older English universities have tended to become merely a rearrangement for the purpose of special studies or social advantages of the Fifth and Sixth forms of a limited number of schools, together with their Sixth-form masters. They have their all-important examinations, and a student must pass these in their entirety; preparing for them in a prescribed residence at obligatory expense, and conforming to the stringent provisions of the *Lex Annalis*; or it will probably take him more than his life-time to obtain university notice. A well-known journalist advises young men who, for any reason, have not kept in the normal track to go to Oxford or Cambridge, if they wish to pass an examination, but to Germany, if they wish to study a subject. In Germany the professors have pupils, and original work is inspected and rewarded. The *Arbeit* system, while producing some self-conceit and many mare's nests, has benefits from which students in England are excluded. Here is another mode of extending our universities, and one which may claim the notice of the new commission in the university for London.

T. W. HADDON.

CITY OF LONDON SCHOOL, Oct. 22, 1892.

GERMANY.

THE DIFFERENT KINDS OF HIGHER SCHOOLS IN GERMANY.

THE schools that rank between the elementary schools and the universities, the so-called middle schools, are of four kinds, the seminaries, the *Realschulen* of the first (*Oberrealschulen*) and second order, the *Realgymnasien* and the *Gymnasien*. The first-named of these serves to educate the teachers for the public elementary schools, the *Volksschulen*. They comprise six classes. The pupils, who are received at fourteen and dismissed at twenty, are instructed in religion, German, French, Latin, mathematics, physics, natural history, history, and geography. Particular care is bestowed in these schools upon music and gymnastics. The pupils of the upper classes will always meet with an opportunity of getting practice in instruction under the guidance of an experienced teacher, an elementary school being attached to each seminary. On leaving school the seminarists are instantly employed as ushers; their military service is confined to six weeks' drilling.

The *Realschule*, too, has six classes; the pupils, however, being received at nine or ten years, leave school much younger than the seminarists. After having passed the examination at the end of the sixth year, they get the certificate for the voluntary service in the army. The instruction includes the same branches of science as in the seminaries, with the exception that instead of Latin, English is taught. This school is before all others considered as one preparing its pupils for life. The boys, being so young (fifteen years) on leaving school, may enter as apprentices any trade or business that requires more than the usual knowledge attained in elementary schools. The better classes of merchants, mechanics, etc., indeed, are recruited from such schools, and many a boy that hopelessly battled against the Greek and Latin forms in a *Gymnasium*, has become a very good scholar in a *Realschule*, even in one of the first order, which actually only exists in Prussia, and which has nine classes instead of six. As, however, these schools teach neither Latin nor Greek, but lay the stress principally on mathematics and modern languages, they are considered inferior to the *Realgymnasium* and *Gymnasium*, the highest of the whole file. Those two are preparatory schools for universities and other higher institutions, as the polytechnic and veterinary schools.

In the *Gymnasium*, as you will have perceived from my account of the examination of maturity and the plans of instruction published in the fourth and fifth numbers of this periodical, the study of the classic languages prevails. In the *Realgymnasium* mathematics and modern

languages (French and English) are predominant. Latin, however, is not neglected: in the sixth class, for instance, eight lessons a week are given in this language, just as in the *Gymnasium*. There exists now a pretty sharp rivalry between these two schools. The *Realgymnasium*, formerly called *Realschule* of the first order, was founded about thirty years ago (1859). It is comparatively young, then, but it has, nevertheless, become a great favorite with the public. The reasons are obvious. There was a time when the study of the classic languages had become so paramount in the *Gymnasium*, that all other knowledge was considered as inferior to that one. There were a good many boys, nevertheless, that could not go through all classes of the school, but were obliged to leave it before they had become graduates. They found, to their great disappointment, that in life many other things were required than what they had been taught to consider as the crown of all knowledge and alone worth serious work and zeal. Those, too, who after the examination of maturity had applied themselves to practical sciences at a polytechnic school, became aware that the knowledge of French and English would be far more useful to them in life than that of the dead languages.

So a very strong counter-current was perceivable in the public opinion against the gymnasia studies. The *Realgymnasium* speedily profited by that opportunity to get more ground, and demanded for its graduates access to the universities, which heretofore had been denied them. Since the 7th of December, 1870, they had, indeed, been admitted to the study of modern languages, mathematics, physics, and national history; law, theology, and medicine, however, could be studied only by graduates from a *Gymnasium*.

In 1875 a society was formed, consisting of teachers at the *Realgymnasien* and former pupils of those schools, that effectually began to fight against the privileges of the *Gymnasium*, and boldly demanded admittance for the graduates of their schools to all branches of science taught at universities, at least admittance to the study of medicine and surgery. Meetings were held in a great many towns, the defects of the old school and the advantages of the new were sharply pointed out, petitions were sent to the Ministry and, above all, statistical proofs were given, showing how efficiently the former graduates of the *Realgymnasium* filled their posts in life. Their petitions, however, were rejected by Government upon the ground that physicians and surgeons were already abundantly to be found in every town.

Though they failed in this attempt, they have at all events the great merit of having caused the reform movement in Germany, a direct consequence of the struggle between the rival schools, which unveiled so many foibles of the *Gymnasium*. This reform is not yet

finished, nor is the combat between the *Realgymnasium* and the *Gymnasium*. As yet the latter has the great advantage of offering its graduates a far wider prospect in life than the former, which induces many persons, who otherwise would prefer the new school, to send their boys to the old ones. But I firmly believe that the beginning of the new century, perhaps, even the end of this one, will improve the situation of the *Realgymnasien*, and will procure them some of the privileges that render the position of the older school so strong. These privileges obtained, they will, I am sure, successfully continue the conflict, and this renewal of the struggle will also bring the reform movement, that has stopped half way, to a happy end.

PROF. OSCAR THIERGEN,
Royal Corps of Cadets.

DRESDEN, Oct. 20, 1892.

SWITZERLAND.

FRENCH VS. GERMAN EDUCATION.

"ON to Berlin," was once a popular watchword in Paris. Now it is never heard. No Frenchman wants to go to Berlin, and even when a foreigner signifies his intention to go there for any purpose whatever, "What for?" is the response, "You can find all that in France and much better than in Germany." The whole tone of the opening lecture of one of the courses of philosophy at the Sorbonne was, "The Germans think they are philosophers, but wait till this course is finished and see what we Frenchmen can do." So different, however, are the whole educational systems of the two countries that the American teacher ought to spend some time in each, trying to appreciate its advantages and at the same time not to blind himself to its faults. So here, with Paris behind and Berlin ahead, let me sum up what the Frenchman says of German education, and then what the German says in his own defense.

Says the Frenchman: "What! go to Berlin to study literature? go to a country where that study means the establishment of Greek, Latin, and Germanic texts? Why, erudition has invaded and conquered Germany. It reigns in the University; it reigns even in the *gymnasia*, where the small boys study philology and are initiated into new methods while they are yet wearing large collars and short breeches. I respect this mania. Were it always sterile, — which it is not, — I should not dare complain; for it fills with joy those who give themselves up to it; and at the same time it makes the happiness of others by the easy railleries to which it lends itself. Besides, I recognize the fact that it is perhaps as puerile to mock at erudition in the lump as to make what some make of it. Yes, scholarship, as we

see it practised by three fourths of the scholars, is, under its grave airs, one of the most futile of human occupations. Nine tenths of the variants which the philologist, after having grown pale over the manuscripts, introduces into the text of a Greek or Latin author, are perfectly insignificant. I am not at all curious to know just how many locative genitives there are in Vergil, nor how many unorganic *c*'s there are in the *Ormulum*. I cannot tell how little I care to know the exact date of each of the comedies of Plautus. Of a hundred inscriptions that they discover and decipher, there are not two that reveal anything interesting. The man who passes a year in an Italian village, digging and cataloguing some old pots, is following a bent for which I can never have any passion. If they should tell me that they have just discovered an almanac of all the Roman functionaries of such a year, I should receive the news coolly, and should only ask that I be excused from reading it. Now all the efforts of all the epigraph hunters will never succeed in reconstituting a tenth part of such an almanac, for which, if it existed, I would not trouble myself. Three fourths of the texts of the Middle Ages, laboriously established and published by persevering men, distil an intolerable essence of tiresomeness. The brain-crazed work of almost all the students comes in most cases only to the discovery or the demonstration of little facts, purely contingent, absolutely empty of signification, from which nothing can be deduced for the knowledge of humanity and of its history. What is more useless and more frivolous than such researches? They suppose, among their devotees, no qualities but patience, a medium sagacity, and the taste for a certain activity without inventiveness, which may very well be allied with a real idleness of mind. They are the refuge of some honorable persons to whom great curiosity, the sentiment of the beautiful, and the gift of expression have been denied. And yet these mediocre occupations, amusing their intelligence by their easy difficulties, fill these scholars with pride. They rejoice in knowing things of which other men are ignorant. The scholar despises the poets, the novelists, the critics, the journalists. The scholar is full of vanity because he forms part of a sort of secret brotherhood which is occupied with mysterious things, which has its traditions, its rites, its special language. The narrower the result of the erudite's researches, in so much more esteem does he hold it; he does not want us to think that he has lost his time and labor. The scholar often has a narrow mind. Epigraphy hinders him from understanding history; philology hinders him from understanding literature; archaeology hinders him from understanding art. The scholar, confined to his minute and barren task, lives outside of the reality, outside of the great human comedy, and does not at all

see to what degree it is amusing and varied. All erudites have a feeble leaning towards Germany. They have their mouths full of German science. In short, the erudite is a frightful being, miserable and superfluous."

So says the Frenchman. But how much also is to be said in the scholar's favor. Hear what the German replies to the Frenchman:—

"It is true that there are several sorts. But who works the most in vain,—the scholar who discovers the useless things of the past, or the 'journalist' who rails at the scholar and who tells and comments upon the useless things of the present? Is it more interesting to know that, about the year 125, Vultius was mayor of an Italian village, or that the other day Mrs. Smith wore a green silk corsage over a blue cloth skirt? Then, too, the scholar has the merit of writing for some few other scholars only, as the poet writes for other poets. Now to work for so small a number of persons and to hold their esteem for a sufficient recompense for his labor,—does not that suppose a pride which has its nobility? Add that this labor is the most disinterested of all. The student seeks the truth for itself; he accepts it and loves it all alone. He loves it not only outside of all practical application, but he loves it whatever it may be, even if sterile. He admits in advance the possible insignificance of the result of his efforts. This abnegation, when we think of it, has it not something of the heroic and touching? But, besides, the scholar is sustained by this idea that he is working for a great, collective work where the effort of each worker may seem to have little fruit but where the effort of all is necessarily fecund. If ninety-nine inscriptions teach us nothing, the hundredth may be able to fix an important point of history. If ninety-nine variants add neither sense nor beauty to an old text, the hundredth may give us a beautiful verse. The exact date of a work may be indifferent; it may also clearly mark the influence of one literature upon another or of political events upon literature. A thousand little pots in red or brown earth will never be anything but little pots; number a thousand and one may be precious for the history of art or of religions, may complete for us the sense of a myth, make us know better the souls of ancient men. The patient scholar is like the good artisan of the Middle Ages who applied himself to dress his stone well for the future cathedral without knowing where that stone would be placed, or whether it would be seen by the faithful; happy, however, to do his humble part for the monument raised to the glory of God. We must pardon the scholars their little faults, their narrowness as specialists, their short sighted view. They are preparing the materials which shall serve to write beautiful books. It is by their discoveries that the sage enlarges philosophy, and that the poets re-

new their inspiration and the *dilettanti* their curiosity. Their ant-like work at length modifies, among the more intelligent beings of our species, the vision of the world and of history. They contribute to the clearer and clearer knowledge that humanity is gaining of itself.

"Some of the younger men mingle more with affairs of this century, dream less, are less haunted by 'method.' Some of them are the workers, who for dressing their block of marble can the better design the plan of the cathedral. While they apply themselves to their minute task, they hold themselves above it. They contribute to the total knowledge of the universe, while guarding themselves from haste and incomplete interpretations which retard progress. It is for this that the scientific passion has for some scholars the energy of a religious faith, and that they appear to the masses with something like the old prestige of priests. With some of them, this absolute cult of the true is allied with the most beautiful and the most delicate of human sentiments. These austere priests of erudition have the most sensitive hearts in the world, and the collators of old texts have an eminently philosophic mind. With them the scholar is only the complement of the historian and the philosopher. They work tranquilly, minimize nothing, exaggerate nothing, and do all with disinterestedness, impartiality, and independence of judgment."

So says the German. Who has the better of the argument, think you?

FRED PARKER EMERY.

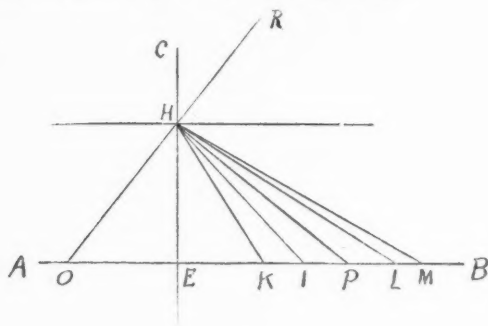
PONTRESINA, September, 1892.

LETTERS TO THE EDITOR.

SUMMATION OF THE ANGLES OF A TRIANGLE WITHOUT THE USE OF PARALLEL LINES.

PROPOSITION A.

If two lines are perpendicular to each other, a line may be drawn to any point in one from some point in the other, making with the first line any required angle excepting a right angle.



Let AB and CD be perpendicular to each other at E . Then to any point in CD , as H , a line may be drawn from some point in AB , making with DH any required angle excepting a right angle.

Connect with H any point on AB , as P , and through H draw a perpendicular to CD . This perpendicular cannot coincide with HP or lie between HP and HE , for in that case it would intersect AB , and we should have two perpendiculars from the same point to the same line. (Prop. V.) A line connecting any point of EB with H will therefore make with DH an angle less than a right angle.

If the required angle is less than DHP , connect with H points nearer E , as I and K . Angle DHI is less than angle DHP , and angle DHK is less than angle DHI , and by connecting with H points on EB nearer E , the angle made by this line with DH may be made as small as required. Therefore a point may be taken between E and P , the line connecting which with H shall make with DH any required angle less than DHP .

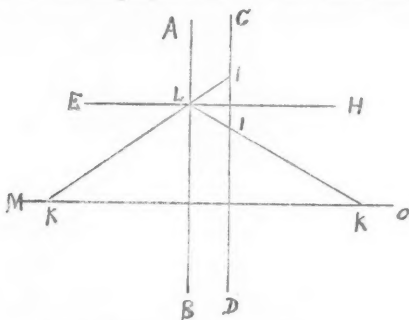
If the required angle is greater than DHP , connect with H points

on AB more remote than P from E , as L and M . Angle DHL is greater than angle DHP , and angle DHM is greater than angle DHL . A point may therefore be taken on EB , the line connecting which with H shall make with DH any required angle greater than DHP and less than a right angle.

If the required angle is greater than a right angle, as DHR , since DHR is the supplement of DHO , and the point O may be taken on AE , so that the angle DHO shall be any required angle less than a right angle, its supplement DHR may be made any required angle greater than a right angle.

PROPOSITION B.

If two lines are both perpendicular to a third line, any line perpendicular to one of them is perpendicular to the other also.



Let AB and CD be both perpendicular to MO . Then the line EH perpendicular to AB is also perpendicular to CD .

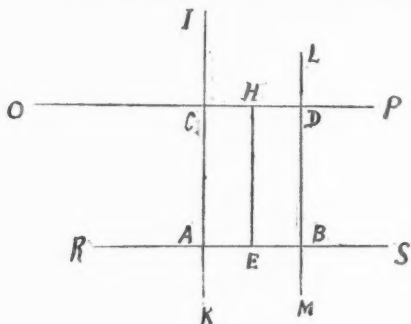
Let EH intersect AB at L . Then if LH is not perpendicular to CD , some other line, as LI , making with BL an angle less or greater than a right angle, must be the perpendicular from L to CD . But a point, as K , may be taken on MO such that the line connecting it with L shall make with BL an angle equal to BLI . (Prop. A.) KL must therefore coincide with LI , and be perpendicular to CD . But no other line than MO can be drawn through K perpendicular to CD (Prop. V.); therefore no line making with BL an angle either less or greater than a right angle can be perpendicular to CD . Therefore EH perpendicular to AB is also perpendicular to CD .

PROPOSITION C.

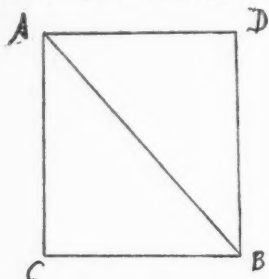
If two lines are both perpendicular to a third line, any other line perpendicular to them both intercepts equal portions of them.

Let IK and LM be both perpendicular to RS at A and B . Then any other line OP perpendicular to them both (Prop. B) will intercept equal portions of IK and LM ; that is, CA equals DB .

At E , the middle point of AB , erect a perpendicular intersecting OP at H . EH is also perpendicular to OP (Prop. B). Fold the



portion of the figure on the right of HE around HE as an axis until it falls again in the same plane. As the angles at E are right angles, ES will fall on ER ; but EB equals EA ; therefore B will fall on A . As the angles at B and A are right angles, BL will fall on AI , and the point D will be somewhere in the line AI . As the angles at H are right angles, HP will fall on HO , and the point D will be somewhere in the line HO . As D is on both AI and HO , it must fall on their intersection C , and DB coincides with and equals CA .



PROPOSITION D.

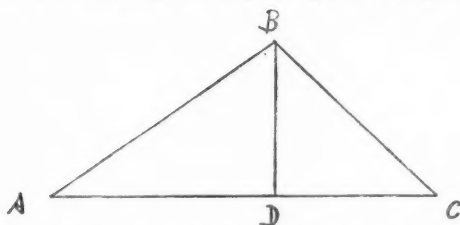
In any right triangle the sum of the two acute angles is one right angle.

Let ABC be any right triangle, right angled at C . Then is the sum of the acute angles CAB and ABC equal to one right angle.

At B erect the perpendicular BD , and from A let fall upon it the perpendicular AD . DB equals AC , and DA equals BC (Prop. C.). The triangles ABC and ABD are equal, having the three sides of the one equal to the three sides of the other (Prop. XXI.). The homologous angles CAB and ABD are therefore equal. Angle CBA plus angle ABD equals one right angle; therefore angle CBA plus angle CAB equals one right angle.

PROPOSITION E.

The sum of the three angles of any triangle is two right angles.



Let ABC be any triangle; then is the sum of the angles A , C , and CBA equal to two right angles.

Upon the longest side, AC , let fall the perpendicular BD from the opposite vertex B . In each of the right triangles, ABD and BDC , the sum of the two acute angles is one right angle (Prop. D). But the sum of the four acute angles of the two right triangles is equal to the sum of the three angles of the triangle ABC ; therefore the sum of these three angles is two right angles.

If the triangle has no *longest* side, the perpendicular may be drawn from any vertex.

NOTE. From Proposition A the treatment of parallel lines may be immediately developed. It follows from this proposition at once, that a line perpendicular to one of two parallels (lines in the same plane that never meet) is perpendicular to the other also, and from this the truth of the "axiom" that through a given point but one line can be drawn parallel to a given line. The truth of Euclid's twelfth axiom is readily deduced from Proposition D.

To the Editor of School and College:

The above method of finding the sum of the angles of a triangle was devised by me more than a year ago. Through your kindness, I have recently had my attention called to the elegant and interesting demonstration of Prof. J. N. Lyle, as contained in his paper read before the Missouri Teachers' Academy last June. He proves that the sum can be neither more nor less than two right angles. The process above may be of interest as a more direct proof, not involving at the start any antecedent impression as to what the sum is likely to prove.

The definitions of the geometrical magnitudes involved, and the axioms and postulates used, may be regarded as the same as those given in Wells's Geometry, and the propositions referred to by number are in the first book of the same work.

EDWARD H. CUTLER.

NEWTON, MASS.

CONCERNING THE GRAMMAR SCHOOLS.

TO THE EDITOR OF SCHOOL AND COLLEGE:—

At the thirty-sixth annual meeting of the Association of Officers of Colleges in New England held at Williams College, Nov. 3 to 5, 1892, it was voted that the following memorandum be furnished to all educational journals for publication, but with the declaration that this action of the Association does not commit any College Faculty to the recommendations made in the memorandum.

MEMORANDUM.

The Association of Officers of Colleges in New England, impressed with the real unity of interest and the need of mutual sympathy and help throughout the different grades of public education, invites the attention of the public to the following changes which, without insisting upon details, it recommends for gradual adoption in the programme of New England Grammar Schools.

ARTICLE 1. The introduction of elementary natural history into the earlier years of the programme as a substantial subject to be taught by demonstrations and practical exercises rather than from books.

ART. 2. The introduction of elementary physics into the later years of the programme as a substantial subject, to be taught by the experimental or laboratory method, and to include exact weighing and measuring by the pupils themselves.

ART. 3. The introduction of elementary Algebra at an age not later than twelve years.

ART. 4. The introduction of elementary plane geometry at an age not later than thirteen years.

ART. 5. The offering of opportunity to study French, or German, or Latin, or any two of these languages from and after the age of ten years.

ART. 6. The increase of attention in all class-room exercises in every study to the correct and facile use of the English language.

In order to make room in the programme for these new subjects the Association recommends that the time allotted to arithmetic, geography and English grammar be reduced to whatever extent may be necessary.

The Association makes these recommendations in the interest of the public school system as a whole; and most of them are offered more particularly in the interest of those children whose education is not to be continued beyond the grammar school.

RICHARD A. RICE, *Secretary*.

WILLIAMS COLLEGE, November, 1892.

HOME NEWS.

THE CONFERENCES ON SECONDARY SUBJECTS.

The Committee of Ten, of which President Eliot is chairman, mentioned in our September issue (p. 432), met at Columbia College, Nov. 9 to the 11th, with every member present. It was decided to hold nine conferences on the subjects, at the places, and with the membership, named below. All these conferences will begin on Dec. 28, and are expected to continue several days.

1. **LATIN.** Ann Arbor, Mich. C. E. Bennett, Cornell Univ.; F. L. Bliss, Detroit High School; J. T. Buchanan, Kansas City High School; W. C. Collar, Roxbury Latin School; D. Y. Comstock, Hotchkiss School; J. S. Crombie, Adelphi Academy; J. H. Dillard, Tulane Univ.; W. Gallagher, Williston Seminary; W. G. Hale, Univ. of Chicago; J. Sachs, Collegiate Institute, N. Y.

2. **GREEK.** Ann Arbor, Mich. E. W. Coy, Cincinnati High School; M. L. D'Ooge, Univ. of Michigan; A. F. Fleet, Military Academy, Mexico, Mo.; A. D. Hurt, High School, Tulane Univ.; R. P. Keep, Norwich Free Academy; A. Leach, Vassar College; C. H. Moore, Phillips Academy, Andover; W. H. Smiley, Denver High School; C. F. Smith, Vanderbilt Univ.; B. I. Wheeler, Cornell Univ.

3. **ENGLISH.** Vassar College. E. A. Allen, Univ. of Missouri; F. A. Barbour, Mich. State Normal School; F. A. Blackburn, Univ. of Chicago; C. B. Bradley, Univ. of California; E. E. Hale, Jr., Univ. of Iowa; G. L. Kittredge, Harvard Univ.; C. F. Loos, Jr., Dayton High School; W. H. Maxwell, Supt., Brooklyn; M. C. Thomas, Bryn Mawr College; Samuel Thurber, Girls' High School, Boston.

4. **OTHER MODERN LANGUAGES.** Washington, D. C. T. B. Bronson, Lawrenceville School; A. N. Van Daell, Mass. Inst. of Tech.; C. H. Grandgent, Boston; C. Harris, Oberlin College; E. S. Joynes, South Carolina College; W. T. Peck, Providence High School; Sylvester Primer, Univ. of Texas; J. J. Schobinger, Chicago; I. H. B. Spiers, William Penn Charter School; W. D. Toy, Univ. of North Carolina.

5. **MATHEMATICS.** Cambridge, Mass., Wm. E. Byerly, Harvard Univ.; F. Cajori, Colorado College; W. S. Chaplin, Washington Univ.; A. H. Cutler, New York City; H. B. Fine, College of New Jersey; W. A. Greeson, Grand Rapids High School; Simon Newcomb, Johns Hopkins Univ.; J. L. Patterson, Lawrenceville School; T. H. Safford, Williams College.

6. **PHYSICS, ASTRONOMY AND CHEMISTRY.** Chicago. Brown Ayers, Tulane Univ.; I. W. Fay, Belmont School, Cal.; A. P. Gage, Eng. High School, Boston; Wm. W. Payne, Carlton College; W. C. Peckham, Adelphi Academy; Wm. McPherson, Jr., Ohio State Univ.; Ira Remsen, Johns Hopkins Univ.; J. H. Shepard, South Dakota Agricultural College; Wm. J. Waggener, Univ. of Colorado; G. R. White, Phillips Exeter Academy.

7. **NATURAL HISTORY.** (Biology, including Botany, Zoology, and Physiology.) Chicago. C. E. Bessey, Univ. of Nebraska; A. C. Boyden, Bridgewater Normal School; S. F. Clarke, Williams College; Douglas H. Campbell, Leland Stanford, Jr., Univ.; J. M. Coulter, Indiana Univ.; S. A. Merritt, Helena; W. B. Powell, Supt., Washington, D. C.; C. B. Scott, St. Paul High School; A. H. Tuttle, Univ. of Virginia; O. S. Westcott, North Div. High School, Chicago.

8. **HISTORY, CIVIL GOVERNMENT AND POLITICAL ECONOMY.** Madison, Wis. Charles K. Adams, Univ. of Wisconsin; Abram Brown, Columbus High School; Wm. W. Folwell, Univ. of Minnesota; A. B. Hart, Harvard Univ.; Ray Greene Huling, New Bedford High School; Jesse Macy, Iowa College; J. Harvey Robinson, Univ. of Pennsylvania; Henry P. Warren, Albany Academy; Woodrow Wilson, College of New Jersey.

9. **GEOGRAPHY.** (Physical Geography, Geology, and Meteorology. Englewood (Chicago), Ill. T. C. Chamberlin, Univ. of Chicago; W. M. Davis, Harvard Univ.; Alex. E. Frye, Supt., San Bernardino; D. A. Hamlin, Rice Training School, Boston; Edwin J. Houston, Central High School, Philadelphia; Mark W. Harrington, Weather Bureau; Chas. F. King, Dearborn School, Boston; F. W. Parker, Englewood, Ill.; G. M. Phillips, State Normal School, West Chester, Pa.; Israel C. Russell, Univ. of Michigan.

REVIEWS.

A Greek Play and its Presentation. By HENRY M. TYLER, Professor of Greek in Smith College, Northampton, Mass., 1891.—9 x 7 in., pp. 64.

This little volume commemorates the representation of Sophocles, "Electra" by members of the senior class in Smith College, June 13, 1889. That was the third occasion, within a few years, we believe, on which a Greek drama had been performed in the original language by American students. It was probably the first time that American girls had undertaken such a task. The performance was heartily enjoyed and warmly praised by all who were so fortunate as to witness it. In this earnest and dignified memorial of the successful undertaking, Prof. Tyler reminds us impressively of the lofty position held by Greek tragedy as the handmaid of religion and the creator of the beautiful. He insists, in closing, upon the great stimulus given to the imagination of the students and their auditors. The value of the volume is increased by sufficiently good pictures, from photographs, of several important characters and groups. The music of the choral portions, with the Greek text, is appended. Though the laudatory newspaper clippings could have been spared, the book is a most satisfactory monument of a happy and fruitful undertaking.

Yet, as we lay the little volume aside, we must confess that both the record and the event it commemorates are almost effaced by the thronging thoughts which it evokes. The generation is hardly yet grown old for whom "The Princess" was written. We welcomed the women's college, as the poet created it, as a flight, not even of prophecy, but rather of half frolicsome fancy. We smiled with the singer over his

"Prudes for proctors, dowagers for deans,
And sweet girl-graduates in their golden hair."

Was it yesterday, or last week, we were laughing with sophomoric superciliousness over the absurdity of it all? And yet—O Postume, Postume!—Ida's wild freak is already a familiar reality. In our own country, at least, the women's college is accepted as a permanent feature of our national life.

Like every reform for which the times are fully ripe, the change has come peacefully, and almost silently. Yet we believe it to be none the

less revolutionary and of far-reaching importance. Indeed, the adequate and wide-extended education of women is an integral and weighty element among the forces which are at this moment recasting the forms, and radically changing the spirit and ideals, of the higher scholarship itself. There is a new tone heard from many directions. We are no longer to rest satisfied with the dry fragmentary results, of narrow special research. The doctrine is heard in high places that even a lifelong acquisition of mere facts is not education at all. The claims of the imagination, of the intellect's spiritual side, are boldly urged. Sympathetic interpretation of the beautiful in literature and art, of the heroic in history and fiction, is at least fearlessly demanded.

Something, at any rate, of this new spirit is due to the new type, the college-bred woman. And we are hardly at the prelude yet. Even the poet's dream, half whimsical at first, grew steadily more earnest and filled with a deeper meaning. So the actual women's college, starting with all the lightheartedness of youth, faces ever larger and more vital problems. The immortal singer's loftiest vision must still be for many a year only a far beckoning hand from the clouded future : —

"Two heads in council, two beside the hearth,
Two in the liberal offices of life;
Two plummets dropt for one to sound the abyss
Of science, and the secrets of the mind,
Musician, painter, sculptor, critic, more; . . ."

Meantime, we welcome every reminder that the student, woman or man, clinging as firmly as ever to demonstrated truth and scientific method, feels, and strives to gratify, the deeper and nobler hunger of the imagination.

WILLIAM CRANSTON LAWTON.

*Sprechen Sie Lateinisch ?** By GEORG CAPELLANUS, Ph. D. Leipsic, C. A. Koch, 1890. pp. 108.

Guide to Latin Conversation. Translated from the French of the seventh edition by STEPHEN W. WILBY, Professor in the Epiphany Apostolic College. Baltimore, John Murphy & Co., 1892. pp. 513. Price \$1.00.

Teachers who wish to give their pupils systematic training in speaking Latin will find these two manuals especially useful. The former contains sixty-eight conversational exercises on a great variety of topics, drawn from every day life, and lists of the Latin names of countries, cities, rivers, and mountains. The book is small, and each

* Since this notice was written a new edition has appeared, slightly enlarged and improved.

part necessarily brief, but sufficient to give the student a fair acquaintance with the words and idioms employed in conversation. It is designed to supplement the reading of classic authors, and to show how readily the Latin meets all the requirements of a living tongue, even in our complex modern civilization. In a class of American pupils familiar with elementary German, the exercises in their present form would afford practice in the use of two foreign tongues, and might be employed with excellent results.

The second work is larger and more varied. Its success in the schools of France has led to its publication in suitable form for English speaking pupils. It contains numerous word-lists, the irregular verbs, the comparatives and superlatives, found in the best authors, forms for conversation on a great variety of subjects, current Latin expressions, dialogues, tables, and choice thoughts from Latin authors.

Of the eighty dialogues, thirty have been taken from the conversations of Father Van Torre, a Belgian Jesuit and distinguished teacher of the seventeenth century. The others were written by Pontanus, a Bohemian Jesuit, who died in 1626, after a long and successful career as teacher and author. The style is good, but of course neither Ciceronian nor Augustan. The chapter on Questions deserves special commendation, as the matter is taken directly from classic writers, mainly from Terence and Cicero.

The value of the book would have been greatly enhanced if all the long vowels had been marked. It is true that there is an attempt to indicate quantities, but on no very consistent or thorough plan. Thus we find *crūris*, p. 36, but *lucis*, p. 13, *thuris*, p. 14, *oris*, p. 36, *vocis*, p. 98. Positive errors appear in *vocabūlum*, p. 74, and *spondēus*, p. 76. The translator would have rendered a good service if he had made the spelling conform to the standard now accepted, writing *iam* instead of *jam*, and correcting such words as *charus*, p. 239; *coelum*, p. 9; *coena*, p. 239; *littus*, p. 13; *pene*, p. 240; *pronunciatio*, p. 77; *seculum*, p. 10. In the lists of mountains and rivers there are striking omissions, as Haemus, Ossa, Pelion, in the former; Danube, Don, Liris, Tiber, in the latter. The collection of grammatical terms is very incomplete, syntactical expressions being almost entirely wanting. In some instances, as in *brachium* and *lacertus*, p. 34, there is no attempt to make accurate distinctions in the use of words. The gender of *smaragdus*, p. 14, is incorrectly given as masc. instead of comm., while the gender of *manus*, p. 35, is not stated. Needless repetitions occur in *aer*, pp. 12, 94; *aura* and *ventus*, pp. 12, 95; *candela*, pp. 13, 67; *numerus*, *singularis*, *pluralis*, *dualis*, pp. 74, 76. On p. 151, *Maecenas quomodo tecum?* Hor. Sat. I., 9, 43 ("On what terms with you is Maecenas?") is translated, "How is it with you, Maecenas?"

Among misprints we have noticed *muscus* for *mucus*, p. 36; *supellectibus*, p. 66; *pyrrhicum* for *pyrrhichius*, p. 76; Causasus, p. 82; *languorum* for *languorem*, p. 239; *filium* for *filum*, p. 241; *sunt ne* for *suntne*, p. 401; *lusos*, p. 412; *meredies*, p. 506.

Notwithstanding these defects the book cannot fail to prove valuable in the hands of a careful teacher. There is a decided difference of opinion among instructors concerning the advisability of making Latin conversation a part of the regular class-room work. Those who believe in it will find these manuals suggestive and helpful.

F. E. ROCKWOOD.

BUCKNELL UNIVERSITY, LEWISBURG, PA.

Extraits de la Chanson de Roland. Published with a literary introduction, grammatical observations, notes and a complete glossary. By GASTON PARIS, Member of the Institute. Third edition, revised and corrected. Boston, Ginn & Co., 1892.—7½ × 4½ in., pp. 160.

This is an admirable condensed edition of the greatest of the old French epics. Besides its intrinsic literary merit, the *Chanson* is especially noteworthy as being the prototype of that beautiful Middle High German epic poem, "*Das Rolandslied*." Even in the present prosaic age the treachery of Genelun and the resultant heroic death of Roland in the pass of Roncevalles, after he has vainly sounded his horn for Charlemagne's succor, cannot but be of thrilling, sympathetic and romantic interest. M. Paris has bestowed much labor and ripe scholarship upon making the French version accessible to advanced students. The entire work, notes, and all, is in French. After a valuable and interesting literary and historical introduction, the editor presents a brief and helpful outline of old French grammatical forms with a synopsis of the versification of the *Chanson*. These introductory topics cover sixty-one pages. Then follow fifty-one pages of text, with footnotes. The text is divided into eight abbreviated adventures, the omitted parts being summarized. The full and clear glossary occupies the remaining pages. This edition of the *Chanson*, complete in every respect, is entirely adequate to supply the needs of all advanced students of Gallic literature.

A. T. SWIFT.

HOTCHKISS SCHOOL.

Quatrevingt-Treize. By Victor Hugo. Adapted for use in schools by JAMES BOIELLE, B. A. (Univ. Gall.), Senior French Master in Dulwich College. Authorized copyright edition, revised for use in American schools. Boston, Ginn & Co., 1892. — $7\frac{1}{2} \times 4\frac{1}{2}$ in., pp. 216.

This American edition of "Ninety-Three," one of Hugo's grandest tragedies, is the last in the series edited by M. Boiëlle. As an introduction, the editor presents a brief but enthusiastic biographical notice of the great French poet, patriot and romanticist. The notes at the end are profuse and useful. While "Ninety-Three" is a monument of its author's finest gifts, we cannot fail to notice that Hugo surveyed the events of that period as a background for the painting of national and patriotic characteristics. The brilliant style of *Quatrevingt-Treize* recommends it for the class-room. The interest is aroused by strong and extraordinary effects, and to quote from Morley, "while he is without a rival in the dark, mysterious heights of imaginative effort, he is equally a master in strokes of tenderness and the most delicate human sympathy. His last book ('*Quatrevingt-Treize*') seems to contain pieces that surpass every other book of Hugo's in the latter range of qualities and not to fall at all short in the former."

A. T. SWIFT.

HOTCHKISS SCHOOL.

Einführung in Goethe's Meisterwerke. Selections from Goethe's Poetical and Prose Works. With Notes, Vocabulary of Difficult Words, and an Introduction containing a Life of Goethe. By Dr. WILHELM BERNHARDT. Boston, D. C. Heath & Co., 1891. — 9×6 in., pp. xii, 275. Price, \$1.60.

This book is designed as an introduction to the study of Goethe, "for school and home," and is the outgrowth of the editor's experience in teaching advanced classes in German. Dr. Bernhardt says very truly that the ordinary practice of giving students of German two or three whole pieces by Goethe to read, and no more, does not give them any true conception of that great man's importance, even in literature. He has, therefore, made copious selections from almost the entire range of the author's writings, — selections which, being often twelve pages long, and occasionally longer, and accompanied by abstracts of the parts not given, are enough to convey some idea of the character of the works from which they are taken. The book is admirably planned and executed; an accurate statement of what it contains will be the best criticism that can be given of it.

There is first a life of Goethe, followed by a critique upon him as

a poet, and a page or two of longer and shorter judgments of him by Emerson, Taylor, Lewes, Prof. Boyesen, and Dr. Hale. Then follow the selections themselves, — sixteen specimens of short narrative poems and ballads, a passage of nearly three hundred lines from *Reineke Fuchs*, and one of eight hundred from *Hermann und Dorothea*. From the prose romances, twelve pages of *Werther* are given, twelve of *Wilhelm Meister*, nine of *die Wahlverwandtschaften*. Next come a few of the familiar lyrics. Of the great dramas, selections of three or four hundred lines each are given from *Götz*, *Iphigenie*, *Tasso*, and *Egmont*, and a considerable portion of the first part of *Faust*. The extracts close with passages from the *Italianische Reise* and *Aus Meinem Leben*.

This, as it will be seen at once, affords an ample variety and amount of material. But the mere catalogue gives no idea of the excellence of the book, which consists not merely in the choice of material, but also in the way in which it is presented. The treatment proceeds on the principle that a beginner in Goethe will not become acquainted with him and understand his place and influence in the intellectual and literary life of the last hundred years without a good deal of help; nor, again, will he grasp the spirit and meaning of the separate pieces and appreciate their beauties unless his attention is called to them. This sort of help is given very fully. In the case of the short poems, for example, we find such information as the following: the date of composition, an abstract in simple prose of the contents, notes on the source, on the manner of publication, on the form (referring to the metre and the choice of words and sounds), and on the idea of the poem. Occasionally a poetical translation is given, and sometimes an abstract or skeleton to show the arrangement of a poem. Each of the selections from the longer pieces is preceded by an account of the entire work from which it is taken, and a condensed account is given of the parts not included; there are also notes of the same sort as have been described above. Beside this running commentary, which is in German and printed with the text, there are at the end of the volume forty pages of brief notes in English; for the most part, translations of single words or phrases, or very short explanations of allusions. These notes are in the main thoroughly good, though occasionally the translations are rather stiff; for example: "a thrill of anxious excitement comes over me" for "*mich überläuft's*," — Gretchen's exclamation when Faust grasps her hands in the garden. The attempt is made to make English words show the etymology of the German ones, for which they are given as equivalents, in a way which now and then seems rather far-fetched.

There are a few minor imperfections which I will mention, which,

however, do not in the least impair the general usefulness of the book. On page 98, some remarks of Bayard Taylor's on *Wilhelm Meister* are quoted. Among them occurs this sentence, the latter half of which might better have been suppressed: "The faults of the work are as positive as its beauties; but it had no antetype in literature." *Antetype* is an ugly mongrel word, meaning, I suppose, *forerunner* or *predecessor*,—i. e., unless *antetype* was intended, which would be meaningless. In either case, the second member of the sentence is not properly contrasted with the first. In a note, page 263, if Virgil's name is to be given in full, and in Latin, he ought to have his *prænomen*, and certainly should be *Vergilius*. On page 213, *Emphorion* is printed for *Euphorion*. Mrs. Austin (page 120, quotation from Lewes) is presumably Jane Austen. On page 47 a metrical scheme is given for the ballad, *Der getreue Eckart*, the metre of which is said to be *ziemlich compliciert*. This scheme makes the first foot in each line an iambus, the rest anapaests. It is plain, however, that in at least half the verses the first two syllables would make good honest spondees, full measure, but go very hard as iambs. It is much simpler not to assume two different measures in the same verse, but to regard the metre as dactylic, with an introductory syllable (anacrusis) which may be long or short. We then have a scheme:—

$$\begin{array}{cccc} \cup : - \cup \cup & | & - \cup \cup & | & - \cup \cup & | & - \bar{\Lambda} \\ \cup : - \cup \cup & | & - \cup \cup & | & - \cup \cup & | & - \bar{\Lambda} \\ \cup : - \cup \cup & | & - \cup \cup & | & - \cup \cup & | & \Lambda \end{array}$$

I have tried to give a full account of the book, which is to be heartily commended to students and teachers of German. A careful examination of it would repay many teachers of Greek and Latin also, for it is a model of the same kind of work on a modern classic author, which we ought, so far as possible, to be doing in our class-rooms on the ancient ones.

EDWARD SOUTHWORTH HAWES.

POLYTECHNIC INSTITUTE, BROOKLYN.

Chemical Analysis. By G. C. CALDWELL, B. S., Ph. D., Professor of Agricultural and Analytic Chemistry in Cornell University. Second edition. P. Blakiston, Sons & Co., Philadelphia, 1892.

This book contains the usual scheme for the qualitative analysis for acids and bases, followed by a well selected series of typical determinations in quantitative work. It assumes a fair knowledge of General Chemistry, if anything, rather more than is given by the average

secondary school. The book differs from many others in giving full discussions of the chemical facts and principles involved in the work; and careful instructions for the manipulations. Since these points must usually be sought in the standard books of reference, which are not always to be obtained (and which elementary students do not always use with profit), this plan must seem advantageous to instructors who wish to carry on thorough work in this branch of Chemistry, and would certainly aid in checking the tendency of students to consider that the ability to carry on an analysis mechanically is the sum and substance of Analytic Chemistry.

If the descriptions of apparatus and manipulations were more freely illustrated, they would be more helpful to students who wish to prepare themselves as thoroughly as possible in advance of the laboratory work. More minute instructions in the approved methods of weighing and of reading volume scales might save some trouble. The use of the "new spelling" is interesting: sulfid, oxid, etc., look strange but sensible.

On the whole, the book is one to be commended to those who wish to carry on a thorough course in elementary Chemical Analysis with limited reference books, and students already trained in General Chemistry.

CHARLES R. ALLEN.

NEW BEDFORD.

Selections from Ovid. Chiefly the *Metamorphoses*. Edited by J. H. and W. F. ALLEN and J. B. GREENOUGH. Revised by HAROLD N. FOWLER. With a special vocabulary prepared by JAMES B. GREENOUGH. Boston, Ginn & Co., 1890. — $7\frac{1}{2} \times 5$ in., pp. xxii, 168.

The text, which is preceded by a succinct "Introduction to the *Metamorphoses* of Ovid," follows Merkel closely. The greater portion of the book is made up from the *Metamorphoses* represented by thirty-one fables, among which are noticed The Four Ages and the Flood, Phaethon, Pyramus and Thisbe, Arachne, Enchantments of Medea, Flight of Daedalus, Philemon and Baucis, Atalanta, Ceyx and Alcyone, and Deification of Cæsar. Several selections from the "Fasti," the "Amores," and the "Tristia" have a place and are valuable not alone for the biographical hints and themes which they contain, but for giving the student an acquaintance with the *elegiac stanza* in which Ovid has never been surpassed. The various fables are preceded by arguments, which are given in full, — an ingenious plan, by which the connection of the tales is kept, — and a complete picture of Greek Mythology is put before the reader. The notes are clear, though not so numerous as they might have been. To give a young

student a love for Latin poetry, the notes (translatory) should be numerous, especially in the earlier part of the work, so that the double task of translation and scansion may not strand him. A profitable part of the annotations seems to be the elementary treatment of the principles of prosody at the *beginning* of the notes — the proper place. Too often the beginner takes up poetry as prose, receiving the prosody several months later as a sort of gloss, instead of dealing with both, as complements, from the first lesson. The numerous pictorial embellishments, scattered throughout the notes, greatly beautify the work and add much to its value. The special vocabulary is the work of Prof. Greenough, a master-hand. It is far-reaching and scholarly, somewhat too much so for the average high-school student. A concordantial lexicon is more desirable in college preparatory work.

This edition of selections from that "inexpressibly graceful poet," arranged by its well-known editors, will doubtless win from teachers of the classics many words of praise.

EDWARD M. TRABER.

HAMILTON, O., HIGH SCHOOL.

Madame Thérèse. By Erckmann-Chatrian. Edited and annotated by GEORGE W. ROLLINS, Master in the Boston Latin School. Boston, Ginn & Co., 1891. — $7\frac{1}{2} \times 5$ in. pp. vi, 211.

It is always a pleasure to meet an old friend, especially in new and becoming attire, and it is thus we feel in taking up this volume of the International Modern Language Series. There is no more charming story than this of the days of the French Revolution, or one in which there is a plainer lesson of patriotism and courage. The simple events in the humble life at "uncle Jacob Wagner's," the fears and pleasures of little "Fritzel," even "Klipfel's forge," are filled with a charm all their own under the magic pen of these authors. Had we seen their photographs, we could not have a more distinct impression of the "mauser" with his book of predictions, his friend Koffel with black beard and sharp nose, the arrant humbug Karolus Richter, and dear Madame Thérèse herself. The aim of the authors in this and all their works is admirably told in the brief preface, which gives, besides, a glimpse of them in their home and of their methods of work. The annotator has the skill to give the salient points, just enough and no more. The notes tell what we wanted to know, years ago, when we struggled with the first edition. Most notes in text-books are exasperating in the way they point out idioms and constructions which a good student already knows and omit in impenetrable silence certain local phrases that dictionaries fail to give.

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Esther. Tragédie en Trois Actes. Par Racine. Edited, with introduction, notes, and appendices, by I. H. B. SPIERS, Senior Assistant Master William Penn Charter School, Philadelphia. Boston, D. C. Heath & Co., 1892. — $7\frac{1}{2} \times 5$ in., pp. xii, 97. Paper, 25 cents.

The tragedies of Racine are too familiar to students of French literature to need any outline or synopsis. This edition has been prepared with special reference to school use, containing in the introduction a few facts from the life of Racine, two pages on French Tragedy, and a short account of the production of "Esther" by the pupils of St. Cyr. The notes are good. The appendices are on metre, rhyme, etc., as found in classical French poetry, and the peculiar use of the past tenses.

HELEN MARSHALL.

Star-Land. Being Talks with Young People about the Wonders of the Heavens. By Sir ROBERT STOWELL BALL, F. R. S., Royal Astronomer of Ireland. Illustrated. Boston, Ginn & Co., 1892. — $7\frac{1}{2} \times 5$ in., pp. xii, 376.

This is a very interesting and entertaining little book. It describes the wonders of space in a simpler and more intelligible manner than any other book of its kind that I have seen. One of its best features is the experiments that illustrate the subjects. It is quite as interesting (to me, at least) as some of the story-books that are so common.

ELLEN P. HULING,

(Twelve years old.)

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